SCHOLASTIC Teacher EDITION

Senior Scholastic
Mar. 17, 1954 • Vol. 64 • No. 7

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Teaching Aids for This Issue

Our Economic Picture Today (p. 6)

The current "recession" or "readjustment" is examined critically and reasons for the expected up-turn are given. Obstacles to recurrence of a major depression at any time in the future are noted. Expected expansion of the economy is based on a growing population, growth of the big-spending age bracket, and the general business optimism reflected in expansion programs. Threats to world peace, failure to conserve our natural resources, and fear of a depression are weighed as factors in the long-term pull toward high level prosperity.

Discussion Questions

1. Why do economists, and political figures too, differ over the use of such terms as "recession," "readjustment," or "inventory absorption"?

2. Economists in the past have underestimated the bounce and "comeback" power in the American economy. Cite an example of this lack of confidence. (Large unemployment widely predicted at the end of World War II.)

3. What evidence have we that businessmen are not losing confidence in the American economy?

4. Describe one "built-in" feature of the economy designed to keep production up. Summarize for us the factors which can help to prevent the kind of depression we had in the 1930's.

5. Discuss the connection between the Federal Government's tax program and economic prosperity. What is meant by "personal exemption" on the income tax forms some of you completed recently?

6. Paul Hoffman has said: "We can talk ourselves into a recession, but we cannot talk ourselves out of one." Explain this statement.

Things to Do

Bring to class newspaper or magazine clippings which indicate what people are thinking about business conditions today or their predictions about the future. Comment on the clippings briefly. Be sure to indicate source and date.

The Changing Face of America (p. 8)

In picture and text we capture the industrial growth which is marked in all the major regions of the United States. A highlight of the picture story is the impact of big industry on a small town.

Things to Do

1. Have a committee report on industrial growth in your community.

2. Have students clip from newspapers and magazines pictures illustrating industrial growth in the local community and in other parts of the nation.

3. Students can interview newcomers to the town. Suitable questions should be developed in class in ad-

WHAT'S IN THIS ISSUE

This is a special issue of *Senior Scholastic* intended to help young people understand American industry. The special articles will find their place readily in courses in *American History* (particularly the unit on the growth of business), *World History* (the unit on the Industrial Revolution), *Problems of American Democracy*, and *Economics*. Since much of the material is current, it can be used for the one-period-a-week approach to current events. Suitable articles can be held or re-read as appropriate units of work are reached.

Brief summaries of the major articles follow the titles given on this and the following page of "Teaching Aids for This Issue."

TIPS FOR TEACHERS

What are we doing to combat economic illiteracy? In recent years, more and more teachers are coming to realize that economics must be restored to its place among the social studies. To have castigated it as a "dismal science" and to have tossed it on the scrapheap of discarded secondary school curricula has not been the answer to the growing need for economic literacy. With mass media daily booming the problems of taxation, national debt, international trade, labor-management relations, prices, etc., help in understanding economics is clearly in order.

Into the breach, in 1949, stepped the non-partisan Joint Council on Economic Education, 444 Madison Avenue, N. Y. 22. Directed by a board of educators, businessmen, and labor union representatives, it has been organizing economic workshops for teachers and publishing down-to-earth teaching aids. Get acquainted by writing to the Council for "These Days Are Gone," and a "Check List . . . Teaching Aids for Economic Education in . . . Secondary Schools. —H. L. H.

vance of the interview. The sociodrama technique can be used to develop the art of interviewing. One student can pretend to be the newcomer and another the interviewer (class reporter).

4. Camera hobbyists in the class can be encouraged to photograph and mount evidences of industrial growth in the community.

5. Long-time residents of the town can be interviewed about how they feel about the growth of industry in the community.

6. A local businessman or some other informed citizen may be invited to address the class on the effect of new industry on the community. Time should be allowed for questions and comments by the class.

U. S. Industry Bets on Prosperity (p. 11)

Steel is the basic metal of modern civilization, and the steel industry led by U. S. Steel, has been expanding its production enormously. The new towns, Fairless Hills and Levittown near Philadelphia, are a growing testimonial to the steel industry's confidence in the future. Other industrial leaders moving forward on an expansion program include General Motors, Ford, Union Carbide (chemicals), Sinclair (oil), American Telephone and Telegraph, General Electric, and Du Pont.

Discussion Questions

1. How would our way of life be changed if the production of steel were halted?

2. What evidence have we that steel and other big industries are confident in the future of America?

3. On what is this confidence based?

4. The increased application of machinery to production is likely to increase unemployment. Do you agree? Explain more fully.

Things to Do

On an outline map of the United States, use symbols (explained by a key) to show the parts of the U. S. where large scale industry is operating. What conclusion do you draw as to the location of industry in America?

Uncle Sam's World Industrial Empire (p. 14)

Economists are looking to 1975 as the year to which they wish to project their forecasts of our industrial future. They see an enormously expanded foreign trade with American investors committed abroad to the tune of $75 billion. Latin America will be a particularly heavy area of investment. We will be importing much more than ever before because of the huge demand for raw materials and wide acceptance of specialties produced abroad. Standards of living will be raised throughout the world, and the markets for our goods will be hugely increased.

Discussion Questions

1. What is the difference between consumers' goods and producers' goods?

2. What evidence have we that the United States is the world's leading producer of both consumers' and capital (producers') goods?

3. Why should any American businessman be willing to risk his capital by investing abroad? In what areas of the world are they likely to invest greater amounts? (Use a map.)

4. Discuss the connection between raised standards of living in other lands and an increased market for American goods.

5. If countries are to buy from us, we must buy from them. Explain this axiom of foreign trade. (They must have dollars in order to pay for purchases here, just as we must have their currencies in order to buy from them.)

6. How is the foreign trade picture likely to be different in 1975 from what it is today?

References

If you are not already familiar with the economic education program of the Joint Council on Economic Education, 444 Madison Avenue, N. Y. 22, you can get started by consulting:

A Teachers Guide to World Trade. Economic Life Series No. 1. 132 pp., $1. A useful resource unit for secondary school teachers.

International Trade, by Lawrence Senesh. 35 pp., 50¢. An account of a "pilot project" carried on in a junior high school in New York City in which a teacher and her students worked together to understand foreign trade.

Coming Up!

in Future Issues

March 24, 1954

National Affairs Article: Congressional Committees and Codes of Procedure—A roundup of editorial opinion and comment exploring all sides of the Eisenhower-Stevens-McCarthy controversy issue and the question of codes of procedure for Congressional committees.

Foreign Affairs Article: Puerto Rico — Overcrowded Island — A survey of Puerto Rico today, its economic difficulties, its social problems, its history and its politics, and its relationship to the United States.

Forum Topics of the Week: High School—A Snap?—a pro and con discussion presenting both sides of the question: "Is the modern high school course of study too easy for the average student?"

You're Wanted! (p. 18)

American industry requires the services of workers ranging from floor boys and girls to atomic physicists. The work of machine operatives, apprentices, clerical workers, and professionals is considered in this article.

Things to Do

1. List the various jobs in industry mentioned in the article. Where would you like to fit? Use the catalogue in the school or local library to help you find information about the job that interests you most. Ask the librarian for the vertical file (folder containing pamphlets and clippings) on the occupation which interests you.

2. Think about what you want to do after you are graduated from high school or college. Talk to your parents and other adults who are earning a living. Find out why they are working in their present jobs or professions. What are the advantages? disadvantages? What training is required?

Collier's

"Here's that good report card you wanted to see for a change. It belongs to Charlie Pearson."

THIS WEEK'S QUIZ ANSWERS

(See page 24)

I. *Economic Picture:* a-2; b-1; c-4; d-4; e-3; f-2; g-4; h-2; i-1.

II. *Dictionary of Economics:* a-4; b-8 c-11; d-9; e-6; f-2; g-10; h-12; i-7; j-3.

III. *Geography:* a-4; b-2; c-5; d-6; e-8; f-7; g-7; h-6; i-3 or 4; j-1.

IV. *Graph:* 1-F; 2-NS; 3-T; 4-F; 5-T.

Answers to Quick Quiz, p. 22

1. 2,200,000; Caribbean; self-governing area which remains under U. S. flag.

2. Caracas, Venezuela; Guatemala.

3. Republican party.

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Senior Scholastic

MARCH 17, 1954 • VOLUME 64 • NUMBER 7

Power for Tomorrow *(See cover story on page 36.)*

Special Issue—*Our Faith in Your Future*

General Electric photo

Year in and year out, certain questions about life insurance are asked over and over again. Because they are of interest to so many people, we are answering these questions in these ads.

Q.

"What kind of life insurance pays me while I'm still living?"

A.

Nearly all regular life insurance policies now have provisions so that you can collect while you are still living. But there are special policies that will pay you definite amounts at definite times. For example, an *endowment* policy guarantees you the full amount of the policy after a certain number of years—usually 10, 15 or 20. A *retirement* policy guarantees you a specified monthly income, or cash in a lump sum, when you reach a certain age. Since 1859, as you'll

see when you read the rest of this story, Mutual Benefit Life has made life insurance a sound living investment—and not a die-to-win proposition. In other words

living insurance

Before Abe Lincoln was elected president Mutual Benefit Life was offering

LIVING INSURANCE

Life insurance was originated, of course, to help men provide for their families in event of death. Yet, less than 15 years after its founding, Mutual Benefit Life had made life insurance a sound living investment, paying the policyholder on his *own* life.

Following the first such endowment policy Mutual Benefit Life added many additional "living benefits"—enabling policyholders to borrow on policies, and take dividends for emergencies and opportunities. Liberal settlement options were designed, allowing policyholders to take cash values on other types of policies as income for their retirement years.

Over the years "living insurance" has become so popular that Mutual Benefit Life now pays out $2 to policyholders, for every $1 paid out in death claims!

THE
MUTUAL BENEFIT LIFE
INSURANCE COMPANY
Organized in 1845
300 Broadway, Newark, N. J.

Senior Scholastic

A National Magazine for Senior High School Classrooms. Published Weekly During the School Year.

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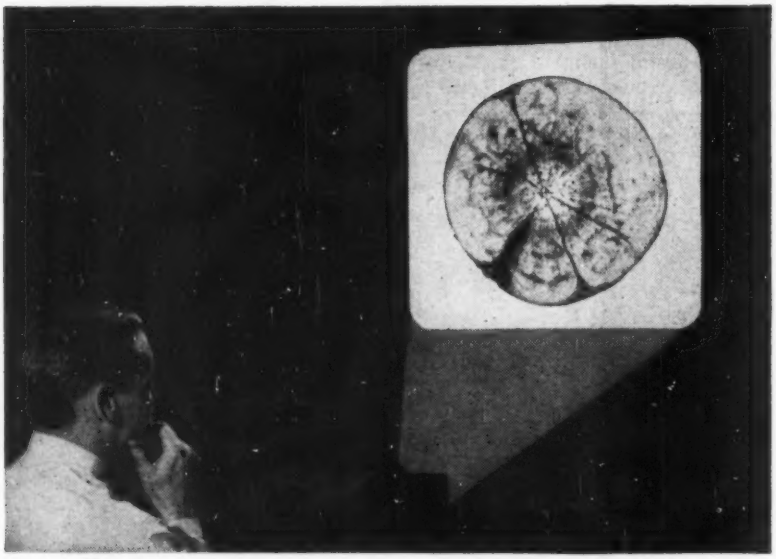
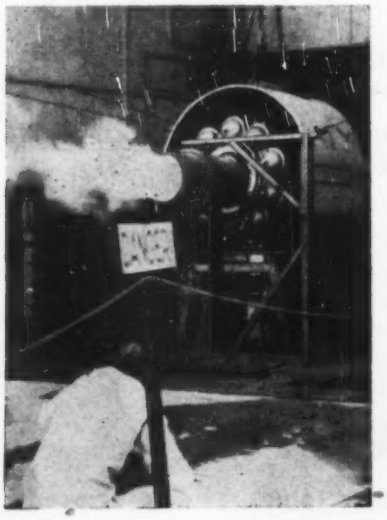
SCIENCE IN ACTION

Building American Industry

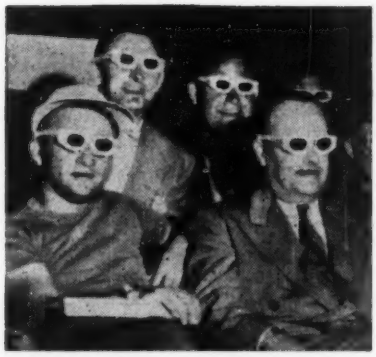
Rome wasn't built in a day, and neither was American industry. It grew through the efforts of many trained people. The experts agree that American chemical industry, for example, will continue to grow rapidly during the next ten years—if it has a sufficient number of scientists and engineers. The high-school students who take up careers in science and engineering today will be an important part of the industrial growth of tomorrow.



SCIENTISTS ARE NOT TOO PROUD to learn from the most ordinary things in the world. Here is a Du Pont scientist studying a magnified cross section of a carrot, in order to learn about the mystery of cell growth. A research scientist cannot always predict what the results of his studies will be, but he knows that the information he obtains in the laboratory is helping to build American industry.



TITANIUM is a new and interesting metal which is helping to make better products for American industry. It performs many special jobs better than materials which we previously had. It has a high resistance to corrosive chemicals and is strong in proportion to its weight. For example, the air compressor disks in some jet engines are made of titanium. Stainless steel could be used here, but the parts would be heavier and would require a heavier mounting. The plane would then have to have a more powerful engine and larger wing surfaces. With proper use of titanium, in places where strength is required, planes can be made lighter and smaller.



3-D WORKS like the old-fashioned parlor stereoscope of the gay 90's—except that "polarized" light is used. Two separate pictures are thrown on the same screen by two projectors. The light waves in one picture are polarized in an up-and-down direction, while those in the other are polarized from left to right. Without special glasses, you see one hazy picture. The "Polaroid" spectacles these people are wearing act like filters and allow each eye to see the picture from only one projector. The mind blends these two images to give the impression of depth. Du Pont manufactures a chemical known as polyvinyl alcohol, which is used in making the lenses for 3-D spectacles.

Questions students ask Du Pont

Does mechanical engineering offer many job opportunities at Du Pont?

—C. Y., Ohio

Yes. Except for chemical engineers, Du Pont employs almost as many mechanical engineers as all other engineers put together. Hundreds of mechanical engineers are hired to design equipment and plants, and to see that they keep working properly.

Send your questions about career opportunities in science to "Science in Action," E. I. du Pont de Nemours & Co. (Inc.), 2521 Nemours Building, Wilmington, Delaware.

Watch "Cavalcade of America" on Television

DU PONT

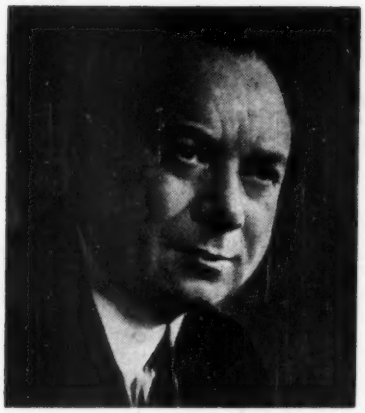
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

INTERVIEW OF THE WEEK

Big Boss of the Air Waves

Meet David Sarnoff of Radio Corporation of America, who takes the long look into our electronic future



Karsh photo from RCA

A TWENTY-ONE-YEAR-OLD youth sat amid an array of radio transmitting and receiving equipment in a small room atop Wanamaker's department store in New York City. It was 10 o'clock at night, April 14, 1912. All was quiet.

Suddenly, in his earphones, he picked up through the incredible static: peep-peep-peep, peep-peep-peep. A message. He leaned forward and wrote:

"S.S. Titanic ran into iceberg. Sinking fast."

The young man paused for a moment, stunned. This was the grimmest message he had handled since he started as an office boy in the Marconi Wireless Telegraph Company six years before. The *Titanic* was the world's largest luxury liner, making her maiden voyage with nearly 2,500 souls aboard.

Quickly the young man swung into action. He pressed his key rapidly to direct another vessel to the scene. One was already approaching the disaster. "Hurry," he flashed.

For three days and nights, the young radio operator sat by his dot-and-dash key. The President of the United States ordered all other stations off the air to reduce interference. The operator gave the world the names of 706 survivors; 1,517 persons went down with the ship. Then he slept.

Dream of the Future in His Voice

That heroic young man was David Sarnoff. He is now, at 63, chairman of the board of the Radio Corporation of America, a huge radio, television, and electronic manufacturing and broadcasting company. He is also a brigadier general in the U. S. Army Reserve. He is also a dreamer.

General Sarnoff, whose whole career has been driven along by the electron, has great dreams for this tiny bit of electrical stuff that drives the heart of radio and television and even ships and rockets. The simple gadgets of today, he says, are only the beginning.

Flashing his bright blue eyes, the general said once: "Today the electron is opening new vistas to practically all other industries. What was once 'electrified' is on the way to being 'electronized.'" You can feel the energy pulsing through his five-foot-five-inch burly frame.

He means that radio tubes, television tubes, and transistors—which all control electrons—will one day control huge machines. Perhaps factories and offices will be run by electronic brains with only a few men around.

What wonders does he perceive?

Telephones with television attached so that you can see the person to whom you are speaking.

Television cameras spotted around the house, so that without leaving her kitchen, mother can see who is at the front door or what the children are doing.

A noiseless all-electronic refrigerator with no moving parts that will be cheap to operate and last for a long time. Every house will be air conditioned with it.

A device that makes a light source brighter or weaker so that the picture produced by a pocket-sized television receiver can be thrown on a wall for all to see.

Personal radio wrist sets so that anyone can communicate with anybody else by calling a number.

General Sarnoff is no science-fiction thinker when he talks about these gadgets. Already R.C.A. has produced a television tape recorder. This eliminates film in television.

"One day," General Sarnoff said, "everybody will have a television tape camera. You can take movies and then run them off on your TV set as you would home movies."

This is not the first time General Sarnoff has made a futuristic prediction. In 1916, he suggested that his company—then the Marconi Wireless Telegraph Company—make home radio music boxes. We call it radio today.

World War I threw a blanket over young (he was then 25) Sarnoff's idea. In 1919 when the Radio Corporation of America was organized, it took over the Marconi company and Sarnoff's music box idea was revived. From 1922 to 1925, R.C.A. sold $83,000,000 worth of radios.

Started as Office Boy at $5 a Week

Aside from music, General Sarnoff has few hobbies. He dislikes most exercise except horseback riding, which he says takes too much time. He has a thirty-room home in Manhattan with two patios, a barbershop, a projection room, and a private elevator. He is reported to receive a salary of more than $200,000 a year.

He has gone a long way since he, his mother, and brother crossed the Atlantic as steerage immigrants. When they arrived in New York from Russia, David was ten and his father (who had preceded them to America) was sick. David became the breadwinner, working after school.

At fifteen, when his father died, David had to quit school and go to work. He wanted to work for a newspaper but wandered into a telegraph office instead and got a job at $5 a week as an office boy.

He learned everything he could about radio and learned to send Morse code. To him Guglielmo Marconi, the inventor of radio, was a hero. He ran errands for Marconi and followed him everywhere. Finally Sarnoff became a radio operator. After the *Titanic* disaster, he and radio rose rapidly.

—EARL UBELL

☆ ☆ ☆ QUOTE OF THE WEEK ☆ ☆ ☆

For many things we can find substitutes, but there is not now, nor will there ever be, a substitute for creative thought.—*Crawford H. Greenewalt, E. I. Du Pont de Nemours and Co.*

Our Economic Picture Today

On a High Plateau, Aiming for New Peaks, Business Looks Forward with Confidence to a Long Future

ARE we going up or down? Is the American economic system due to crack up (as the Communists imagine)? Or will it hold steady and keep on growing to meet the challenge of new times, new conditions (as the entire free world believes)?

The answers to these questions are important not only to businessmen and statesmen. They spell poverty or plenty for every man, woman, and child. Particularly, they mean the chances of a vigorous and useful life for the high school students of America now taking the first steps toward their careers.

Let us take a sober and clear-eyed look at our economic picture—today and tomorrow.

In the middle of 1953 American business was turning out goods and services at an all-time record rate of $44.35 a week for every man, woman, and child in the United States. By the end of the year this rate of output had sagged 2.1%—a few cents a week for each of 161 million Americans.

Every economist has a name for what is happening. Some call it a "recession"; others a "readjustment." But no matter how they describe it, few will predict that the "decline" will last very long or dip very low . . . because:

1. Business is building new facilities without a moment's hesitation—at a rate about equal to last year's amazing peak.

2. The American public, with more money to spend than ever, is consuming goods at a rate barely under that peak period.

3. Economists have often in the past underestimated the bounce and "comeback" power in the American economy.

Our Second Best Year

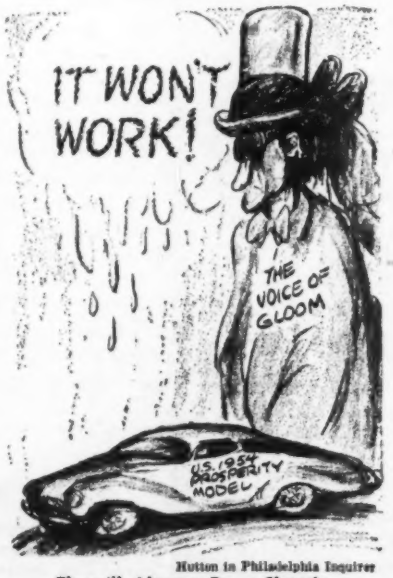
With few exceptions, these economists today see our economy as merely pausing on its present high plateau before heading for still higher peaks. Most of them are willing to bet that 1954 will be the second most prosperous year in U. S. history—about 5% below 1953—and that a new upturn will start before the end of the year. They have plenty of facts and figures on which to base their judgment.

Just about everything measurable in our economic world hit new records last year. On the production side, American business produced more—a gross national product of goods and services worth $367 billion; invested more plant and equipment—$28 billion; paid more dividends—$9.4 billion; and employed a total labor force (exclusive of the armed services) of 61,900,000.

On the consumption side, people earned more—$284.5 billion; they spent more—$230 billion; they saved more—$18.8 billion; and they ended the year with total individual savings (bank deposits, government bonds, etc.) of over $200 billion—four times as high as in 1939.

But there were a few worrisome soft spots that have stretched on into 1954. Gross national product dipped $3.5 billion during the last three months of 1953; unemployment reached 3,087,000 last month; and the Federal Reserve Board's production index had dropped about 10% since last July.

Besides, federal spending for defense is expected to drop $5 billion during 1954 and farm income continues to sag. Then there is the troublesome problem of unsold goods piling up on manufacturers' and retailers' shelves. Value of these "inventories" was close to $47 billion in the middle of February. Largely responsible was a slackening demand by consumers for durable goods like cars, television sets, and refrigerators.



Hutton in Philadelphia Inquirer

There'll Always Be a Skeptic

After taking a long look at the pleasant and unpleasant sides of the picture, Government and civilian economists still see no reason to get panicky. In his annual economic report to Congress, President Eisenhower stated: "The minor readjustment under way since mid-1953 is likely soon to come to a close."

Barometers of Hope

Agreeing with the President is no less a person than Leon Keyserling, last chairman of the Council of Economic Advisers to serve under a Democratic administration. In a speech late last year, Keyserling stated there is "only one chance in ten of a serious downturn" during 1954.

Even the most pessimistic economist, Britisher Colin Clark—who feels a "chain reaction" will send the economy to a near depression level—sees us enjoying another healthy boom within two or three years.

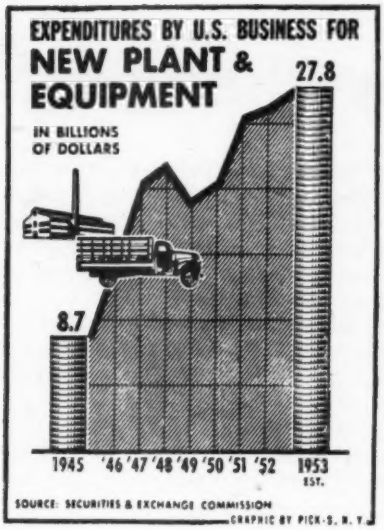
Most American economists would agree with Dexter Keezer that we can absorb a moderate decline in the general levels of business without a chain reaction setting in. Keezer heads the economics department of McGraw-Hill Publishing Co., publishers of 40 trade and business magazines.

The biggest single reason for general confidence is the fact that American businessmen expect to expand their facilities in 1954 by about as much as they did during 1953, according to U. S. Department of Commerce estimates. The "barometers" of this hopeful feeling are such industrial giants as General Motors and U. S. Steel Corporation (see pages 11-13).

There are other encouraging signs:

1. At year's end business still had a backlog of $65 billion of hard goods orders on the books.

2. Construction—expected to decline—was up 2.7% during January over the same month in 1953.


EXPENDITURES BY U.S. BUSINESS FOR
NEW PLANT & EQUIPMENT
IN BILLIONS OF DOLLARS
27.8
8.7
1945 '46 '47 '48 '49 '50 '51 '52 1953 EST.
SOURCE: SECURITIES & EXCHANGE COMMISSION
GRAPHIC BY PICK-S. N. Y.

3. The stock market is holding strong at levels higher than last year.

4. The number of people who filed unemployment insurance claims has been going down for several weeks past. While there have been temporary layoffs in such industries as automobiles, we are likely to forget that even in times of peak production there are always in this country from 1½ to 2 million unemployed. Most of them are in the process of changing jobs or moving.

5. Department store sales by the middle of February were only 1% below the corresponding period last year.

This combination of facts shows that our economy is basically healthy. There are many reasons why it is different today from the lopsided economy before the stock-market crash of 1929—and why a depression of the size of 1929-1933 will probably never come again.

One of the biggest reasons is that more people are sharing more broadly in the nation's wealth, as the result of the nearly full employment and high wages since the start of World War II.

New Safeguards Against Depression

In addition, there are several new and "built-in" features provided by the Government that put more money into the hands of consumers and encourage them to keep buying goods and thus keep production up. For example,

- Unemployment insurance covers 37 million workers, compared to none when the 1929 depression struck.
- Social security payments, also first introduced in the 1930's, make the change in income when a worker retires less drastic than formerly.
- Farm price supports keep farmers' income on a fairly even keel.
- The Securities and Exchange Commission checks wild speculation in stocks and bonds, such as was partly responsible for the 1929 crash.
- The Federal Deposit Insurance Corporation guarantees bank deposits in the event of bank failures.
- Home owners' loan agencies provide mortgages which enable borrowers to make payments in equal amounts through the life of the loan.

Should further Government help become necessary, the President promises to step in "with every legitimate means to sustain our prosperity." Among things the Government can do would be to lower taxes on incomes and luxury items; reduce interest rates and make loans easier; give business special inducements to expand; or provide work through WPA-type public works program to improve schools, highways, hospitals, and military installations.

But the greatest asset of the United States is people. People are consumers, and they are multiplying fast. Today we have 161,000,000 people. This is 2.7 million more than we had 12 months ago. Since 1940 our population has grown by 27.6 million—faster than Russia. Only India and China, among major nations, are growing faster than the U.S.A.

Right now the group ranging in age from 20 to 35—the group which does the largest amount of buying—is relatively small—about 35 million. This is largely because of the economic pinch that caused a low birth rate in the 1930's. Fewer new households means less demand for new houses and housing equipment.

But by the end of the 1950's the big baby crops that were born in the late 1930's will be marrying and forming households. Then will come the products of the rising birth rates of the 1940's and 50's, which last year reached a record high of 4 million.

By 1975 nearly 50 million Americans will be in the big-spending, 20-to-35 age bracket, and the total population will probably exceed 200 million. They will be the biggest mass market that industry ever had for new cars, houses, appliances, clothes, furniture, etc.

In short, the period between now and 1960 has all the earmarks of another super boom—one that may make the postwar boom look like chicken feed.

Caution!

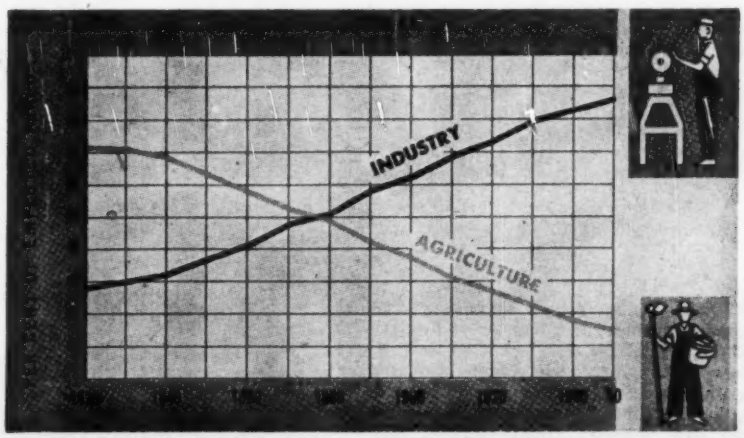
So what's to stop us? What can prevent our dynamic, progressive system of free enterprise from reaching new heights of achievement, production, and general welfare?

Well, there's atomic war, for one thing. Our economic hopes are built on peace and our business leaders realize it. We must invest all our intelligence, our patience, and our energies to keep this world from exploding into the total disaster of war.

And there's waste. Our nation has not had too encouraging a record of conservation of our priceless natural resources. If we don't watch ourselves carefully and use real foresight, we will wake up some day to find our rich topsoil exhausted and our irreplaceable mineral wealth used up forever.

And there's the responsibility of good economic citizens, whether we're businessmen, workers, or consumers. We must have common sense and keep level heads. We should take to heart the wise words of such leaders as Paul Hoffman, chairman of the board of the Studebaker Corporation, who wrote in the New York *Times* recently:

"If people quit buying and business quits growing and bankers quit lending because of fear of trouble ahead, a downward spiral can result in spite of all the economic resistors against it. We can talk ourselves into a recession, but we cannot talk ourselves out of one."



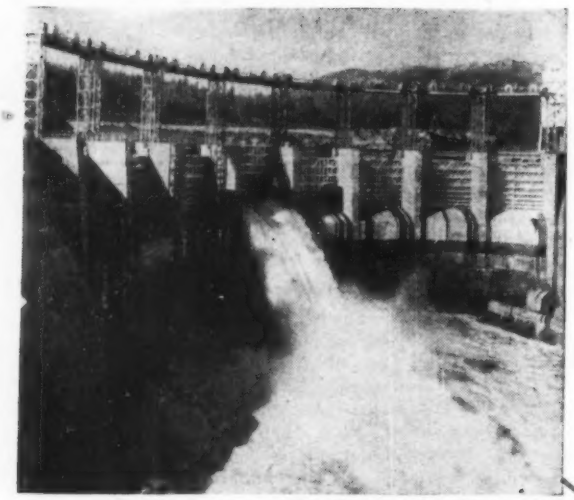
From "The American Economic System" (Vennard and Winsborough), published by Row, Peterson & Co., 1953

For more than 100 years the number of workers on U. S. farms has been declining, but the number of industrial workers has grown much faster than the population.

The Changing

ABOVE the prairie, a shiny skyscraper; on the desert, a gleaming factory; in the river gorge, a freshly-built dam—these are the sights you see when you travel the U. S. today. New centers of industry are springing up in former farm regions and wastelands.

The U. S. is riding an industrial "building-boom" bigger than any in its history. Last year, business firms spent a record-smashing $28,000,000,000 to modernize old plants and build new ones. If you lumped together in one structure all the new factory space being added by a single big company (Ford) you'd have a building 500 feet wide and ten miles long!



Washington Water Power Co. photo

NORTHWEST: New dam at Cabinet Gorge puts Idaho's Clark Fork River to work. Electricity from region's mighty rivers "sparks" such industries as atomic energy, metals, wood.

Aviation Week photo

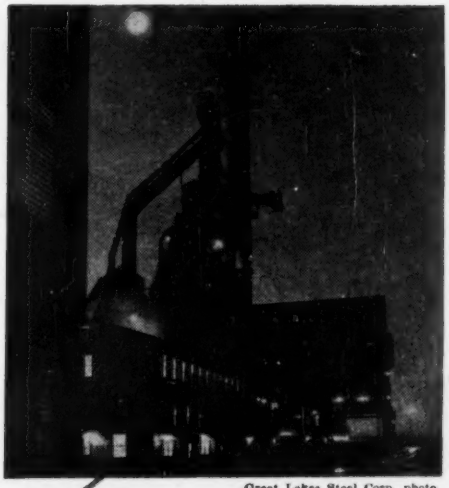
WEST COAST: Newborn Super-Constellations —fresh off the assembly line—huddle around big Lockheed plant. Aircraft industry, new to California, is biggest in the state, pays $760,000,000 in wages yearly. Factory jobs in California have increased by 150 per cent since 1939. Other big industries are food processing, petroleum, chemicals, ships, movies.

SOUTHWEST: A "prairie skyscraper" *(model shown in photo)* is going up at Bartlesville, Okla., site of the state's first oil well. It will house offices of an oil pipeline firm and be visible for 20 miles. From Southwest deposits of oil and other minerals come raw materials for new chemical, metal-working, guided-missiles and military aircraft industries.

Face of America

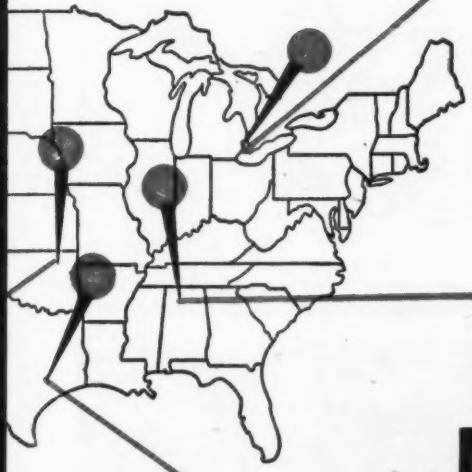
The "lion's share" of this industrial expansion is going to two regions: the *Middle Atlantic* (centering around N. Y., N. J., Penna., Md., and Del.), and *New England*. These areas were the first U. S. regions to develop manufacturing industry. They still produce much of our industrial goods. But many billions are being spent today to build industry in other parts of the United States.

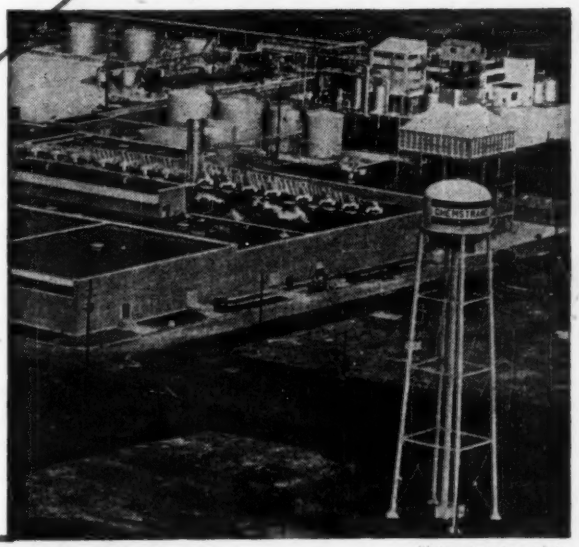
Take a look at the map and photos on these pages (and the page following). They show that our nation is still young, still growing—that we Americans still cherish a deep faith in its bright future.



Great Lakes Steel Corp. photo

GREAT LAKES. Eerie glow of this new blast furnace lights the night sky over Detroit. This area produces most of nation's autos, trucks, tractors.

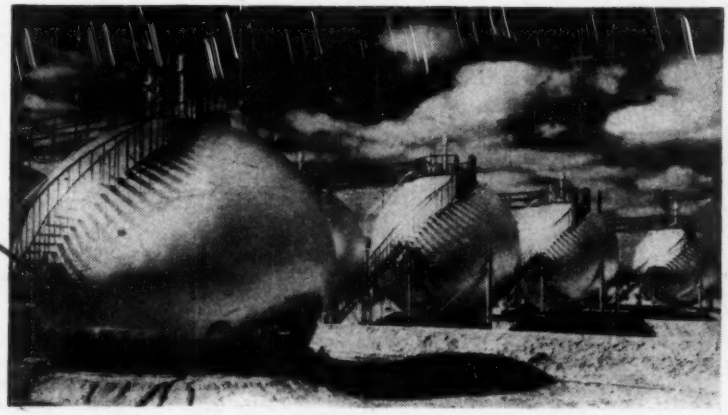




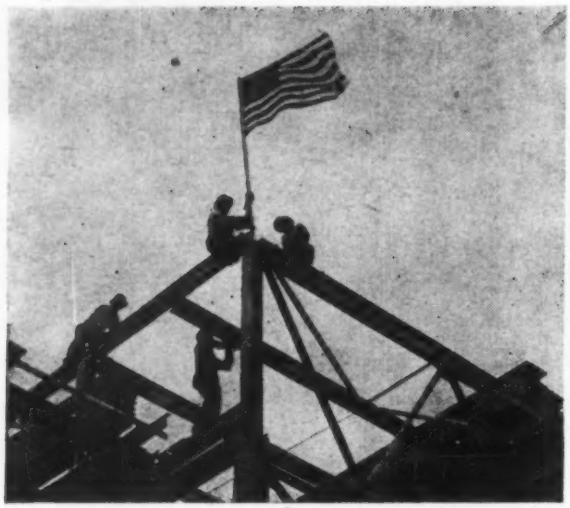
Chemstrand Corp. photo

SOUTH: A metal forest of tanks, towers, and smokestacks is this new plant for synthetic textiles. Long neglected by factory builders, the South is fast becoming a new industrial empire.

Shell Oil Co. Photo



GULF COAST: Fantastic, silvery bubbles stud the Texas landscape. They're metal storage tanks for natural gas—important new source of energy for industry. New industries along Gulf produce chemicals from oil and gas, and treat ores shipped in from Latin America. Texas may soon lead all states in aluminum output, is growing fast in steel.



American Institute of Steel Construction photo

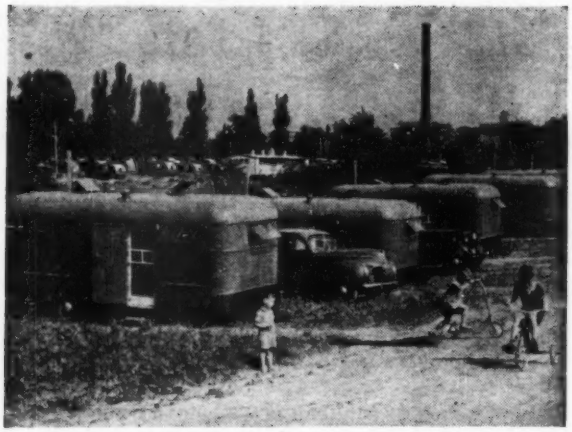
1. ENTER INDUSTRY: When construction workers "top out" a new factory building, they often raise "Old Glory" to celebrate. The arrival of industry brings tough problems to a small town, which its local government must try to solve.

When Industry Comes to Town

- Industry is "moving in" on Main Street, U. S. A., as never before. Business firms are putting two out of every three of their new plants in medium-sized and small towns. In 1940 this proportion was only one in two.

  Why the switch? "In the smaller community," say industrialists, "operating costs and taxes are lower, living is easier, and employees are better satisfied."

  What happens when a big industry comes to town? See picture story on this page.



2. HOUSING: Workers flock into town to fill jobs in new plant. Trailer camps spring up, then mass-produced homes (as in Levittown). Increasing population will need more water, sidewalks, street lights, sewers, schools, etc.

Herblock in Washington Post

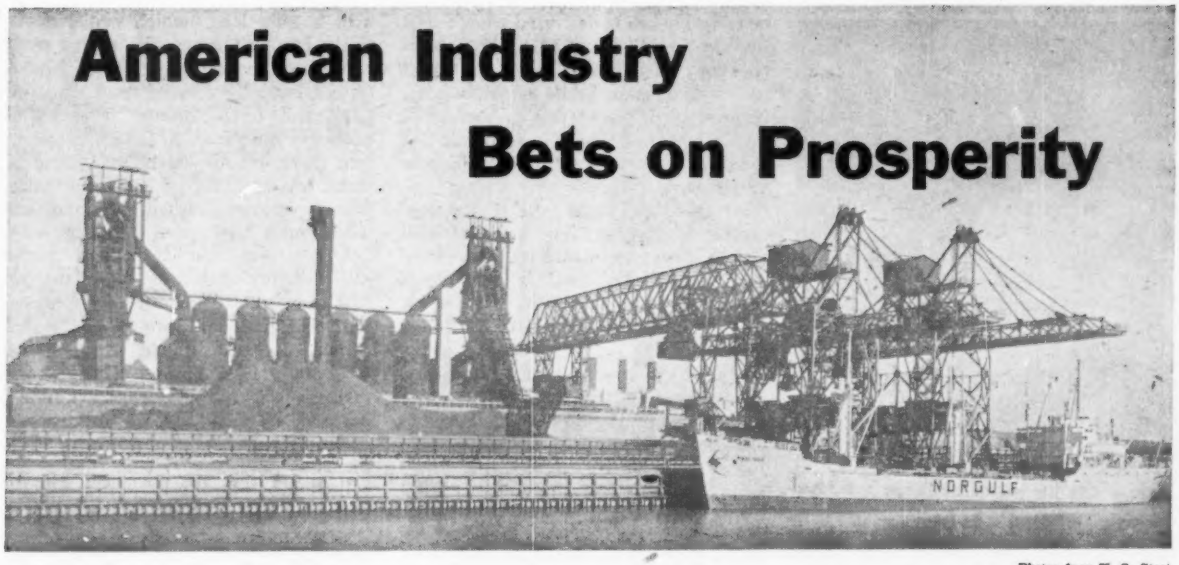
3. SCHOOLS: *"I'm in the fourth grade, second shift, third layer,"* says girl in cartoon. Booming industry causes overburdened schools.

5. OPPORTUNITY: Industry brings benefits, too. Payrolls pump spending money into local pockets, make stores hum with business. New job careers open for high schoolers (see photo). Fewer feel it necessary to leave for "the city."

Herb Kratovil photo, courtesy Business Week

4. TRAFFIC: Incoming industrial workers bring their cars. Traffic often chokes up. Town may adopt parking meters to control traffic and raise funds for street improvements, new signal lights, a bigger police force.

American Industry Bets on Prosperity



Photos from U. S. Steel

Norwegian freighter unloads ore at docks of Fairless Works, with the ore yards and blast furnaces in background.

Our Great Industrial Corporations Declare Their Faith In Your Future by Multi-Billion Dollar Expansion Programs. Here are a Few Typical Examples of Their Long-Range Confidence.

UNITED STATES STEEL

WHEN people talk about "basic industries" the first one they think about is STEEL. Why? Because it is the basic metal of modern civilization. It forms the bones of practically every material part of our lives, from skyscrapers to safety pins. It can be hard enough to cut glass, strong enough to bear half a million pounds per square inch, thin enough to be drawn into wire one thousandth of an inch thick, durable enough to resist heat, rust, and chemicals. No other material is so versatile as steel. Without it, our complex world today would fall to pieces.

It is not hard to see, then, why the United States Steel Corporation is the bellwether of economic prosperity throughout the nation. Of the total steel producing capacity of the United States, now about 112,000,000 tons a year, Big Steel turns out approximately one-third, while the other two-thirds is divided among a number of large and small independents.

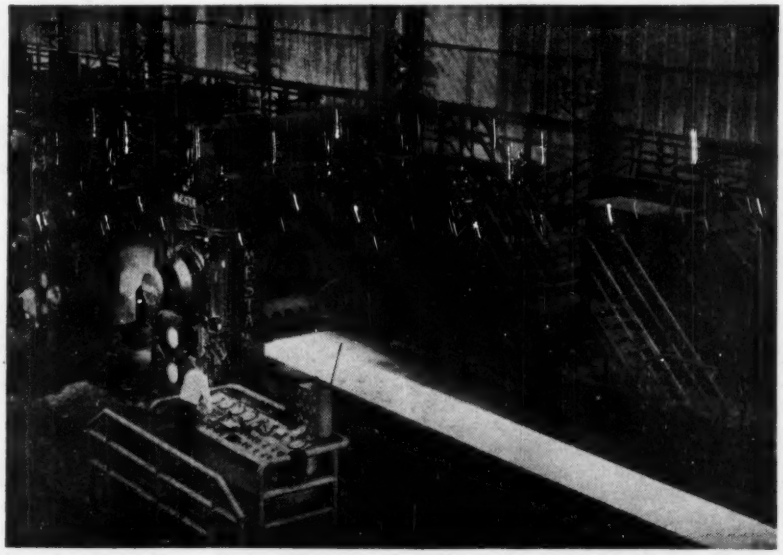
Big Steel on the Delaware

When it was announced in 1950 that U. S. Steel had quietly bought up 4,000 acres of farm land in the big bend of the Delaware River between Trenton and Philadelphia, and would build there the largest fully integrated steel plant in the U. S., the news electrified the country.

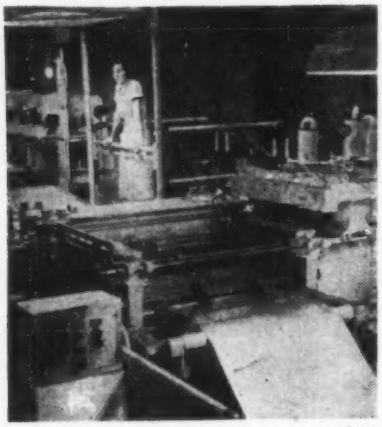
In a beautiful rolling countryside rich with historic memories of Washington and William Penn, there were then only a few sleepy villages like Morrisville and Pennsbury. Breaking ground on March 1, 1951, the entire plant was completed and in operation by Christmas, 1952. It was named Fairless Works for the dynamic chairman of U. S. Steel, Benjamin Fairless. It had cost $400,000,000 to build this mammoth industrial plant, the labors of more than 10,000 construction workers, and ten million man hours of engineering work.

The process of steel-making is somewhat like that of candy. A large part of the operations must take place while the metal is in a molten, or at least a red-hot state. Therefore, once the job is started, it cannot be stopped until it is done.

So much of the process at Fairless is carried on by huge automatic machines that the visitor is at first struck by the scarcity of the workers. Yet at peak capacity there are 6,000 of them working three shifts a day. But though they are few, they have to be good. Take George Lowstetter, for instance, a veteran of 30 years in the mills, who sits in a little glass-enclosed house called a "pulpit," high over the rolls of a giant slabbing machine. He has to



Hot sheet steel rushes out of the finishing stands in the hot strip mill.



Marion Yarletts, Fairless employee, inspects quality of tin plate on the line.

know exactly what levers to pull at exactly the right moment to guide the massive rolls that squeeze the white-hot ingots down, inch by inch, until they are thin red slabs 45 inches wide and 30 feet long.

From Ore to Finished Products

Suppose you were the *Scholastic* editor who had the privilege of looking through this fabulous plant on a recent visit. What would you see?

First you'd visit the ore docks, where there is room for two or three ocean-going vessels to tie up in a slip dug out of the bank of the Delaware River. Here clam-shell buckets swing out, scoop up 22 tons of reddish ore at a bite, and carry it to a moving conveyor belt. Today ore is delivered from South America by an all-water route that is cheaper than the part-rail transport from the Mesabi range of Minnesota. In January shipments began from U. S. Steel's 500,000,000-ton mountain of Cerro Bolivar in Venezuela, which is almost solid iron.

At the same time, over in the coal chemicals division, mountains of coal and limestone are being unloaded from freight cars. The coal is fed into a battery of 174 tall, thin coke ovens, where it is "cooked" for 16 hours. One of these is tapped or "pushed" every six minutes day and night. They also produce many useful by-products, such as naphthalene from which plastics are made, and ammonium sulfate.

The coke is transported on a mile-long conveyor belt to two great blast furnaces with a combined annual capacity of 1,200,000 tons of pig iron. Here it is loaded from the top, together with limestone and iron ore, and hot air is blown into the furnace under pressure. Every six hours the furnace is tapped, and 300 tons of molten iron flows out. Most of it is poured into huge torpedo-shaped ladles that act like thermos bottles to keep the iron hot, and are transported on flat cars to the open hearth furnaces.

There are nine of these open hearth furnaces, rectangular structures with an arch-shaped ceiling completely lined with firebrick. Here the molten iron is mixed with clean scrap iron which helps to conserve the supply of iron ore. In 8 to 12 hours, the "heat" of steel is tapped and flows out into molds which shape it into steel ingots about six feet long and two feet square.

Then begins the most dramatic part of the story. In one continuous process through a huge windowless building over a mile long, which could house thirty football games, the rolling mills take over. The white-hot ingots, loaded on a constantly moving track, are run back and forth through a series of powerful rollers which flatten them out into slabs, blooms or billets. Some of them are shunted off to other mills, where various finished products are made—rails, bars, wire, pipe, or tube.

Others are rushed without pause into the "hot strip mill." Here the 30-foot slabs of steel, now a bright cherry red, are flattened into a continuous ribbon of metal moving at speeds up to 2,300 feet a minute. Half a mile farther on, after being trimmed, scraped, cleaned, and cooled by cascades of water, they emerge as strips of silver-gray steel plate. These are rolled into 4-foot coils weighing half a ton apiece.

Many coils go into the cold-rolling mill, where by pressure only they are processed for various kinds of sheet steel such as are used in automobile bodies and railroad cars. Another batch of coils is switched into the tin-plate mill. There the steel plate is coated with tin by an electrolytic bath or the "hot dip" method. It is cut by giant shears into sheets about three feet square. These are sold to can manufacturers and food processors.

A steel mill is a place of noise and heat. Showers of sparks spurt from the steel ribbon like a Fourth of July pinwheel. Yet modern technology has made the plant remarkably clean. Girls in freshly laundered uniforms are employed in the tin-plate mill to inspect the sheets for defects. There is little smoke even at the coke ovens and furnaces. The industrial grime feared by the farmers of Morrisville has not devel-

(Continued on page 38)

Mothers and children live an outdoor life in the planned residential community of Levittown, where truck farms once grew.

The Fairless Hills Little League's 1953 All-Star team and coaching staff. They are the cream of eight teams in the continually expanding recreation program of the community.

GENERAL MOTORS

If U. S. Steel provides the indispensable material, General Motors is the largest single industrial producer in the world. And G. M. has just announced a billion-dollar expansion program for 1954-1955.

Nearly one out of every two new U. S. cars sold in 1953 was made by General Motors Corp. The Ford Motor Co., which ranks second in the auto industry, sold about one out of every four new U. S. cars in 1953. The other six big U. S. automobile makers shared most of the rest of the market.

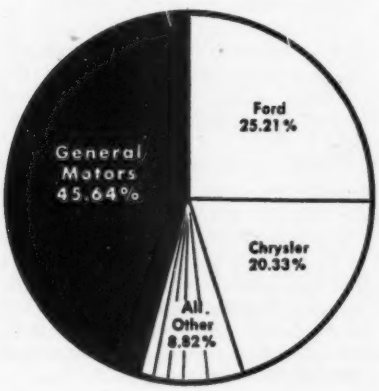
General Motors makes Cadillacs, Buicks, Oldsmobiles, Pontiacs, and Chevrolets, as well as the Opel in Germany, the Vauxhall in England, and other cars. Among its thousands of other products are trucks, buses, diesel locomotives, jet engines, tanks, Delco appliances, and refrigerators. Directly or indirectly G. M. employs nearly a million workers in this country. It has 118 plants in 63 U. S. cities, six in Canada, and two dozen abroad. In addition there are numerous warehouses, offices, and other facilities.

General Motors sold 3,500,000 cars and trucks in 1953. Now it is expanding its plants, retooling production lines, installing more efficient machinery, and working on new production models to capture even bigger auto sales in 1954.

G. M.'s billion-dollar expansion program is designed to meet the increasing demand for goods generated by our rapidly growing population. General Motors already has spent $2,000,000,000 on expansion since the war.

Ford has a half-billion-dollar expansion program—largely to be spent in an effort to take the No. 1 place away from Chevrolet. To do that Ford will have to produce and sell more than 35,000 Fords a week. Chrysler is No. 3 producer in the car industry. It is launching a $250,000,000 expansion program financed by Prudential Insurance Co.

GENERAL MOTORS has this big bite of the automobile market today.



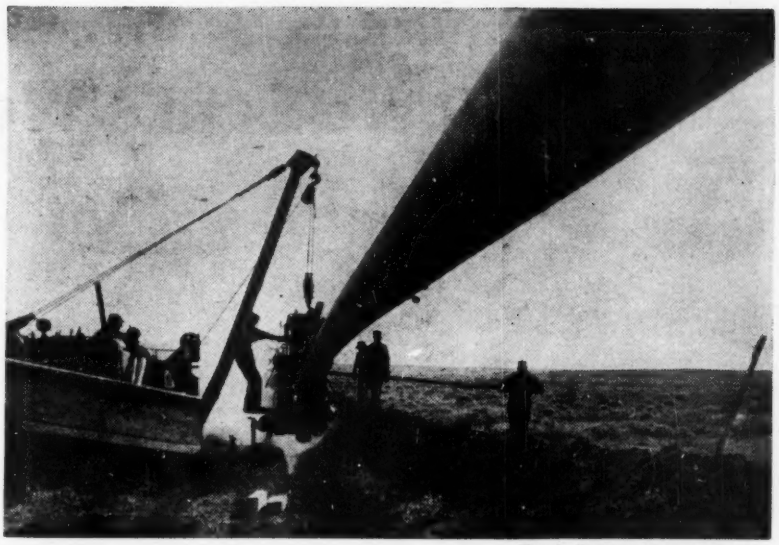


Photo by Vandivert for Sinclair Oil Corp.

Pipelines are the arteries of the petroleum industry. This "Big Inch" is being laid by Sinclair to move crude oil from its Colorado fields to Illinois refineries.

Manufacturer's Manufacturer

The Atomic Energy Commission's Oak Ridge (Tenn.) Laboratory is operated for it by the Union Carbide and Carbon Corporation. You rarely hear of this expanding industrial giant because its products—largely chemicals—are sold to be used in other products, such as Eveready batteries, neon tubing, and Bakelite plastics. To meet the mushrooming demand for its chemicals, alloys, gases, and carbons, Union Carbide has launched a multi-million dollar program of expansion in research and new building construction.

Among Union Carbide's billion dollars' worth of annual sales are alloys which are sometimes called the "hidden backbone of steel." These alloys cleanse and purify steel and give it special qualities such as strength, toughness, and resistance to corrosion. Union Carbide also makes driers for varnishes and enamels, insecticides, man-made fibers, and acrolein. Acrolein is a raw material used for a nutrient which makes chickens grow fatter faster. From silicones—cousins to glass—Union Carbide makes water-repellent clothing and car upholstery as well as long-lasting polishes and electrical insulation.

The business of Union Carbide's major customers is booming. The company is pushing plant expansion, therefore, in an attempt to meet the demand for its goods. It also is expanding its research program to find new uses for its many products.

Sinclair Expands Confidently

The Sinclair Oil Corporation, too, is confident of the future of American business. It has a carefully planned long-time program of expansion, to cost nearly a billion dollars. Here, in brief, is how Sinclair is investing in the future.

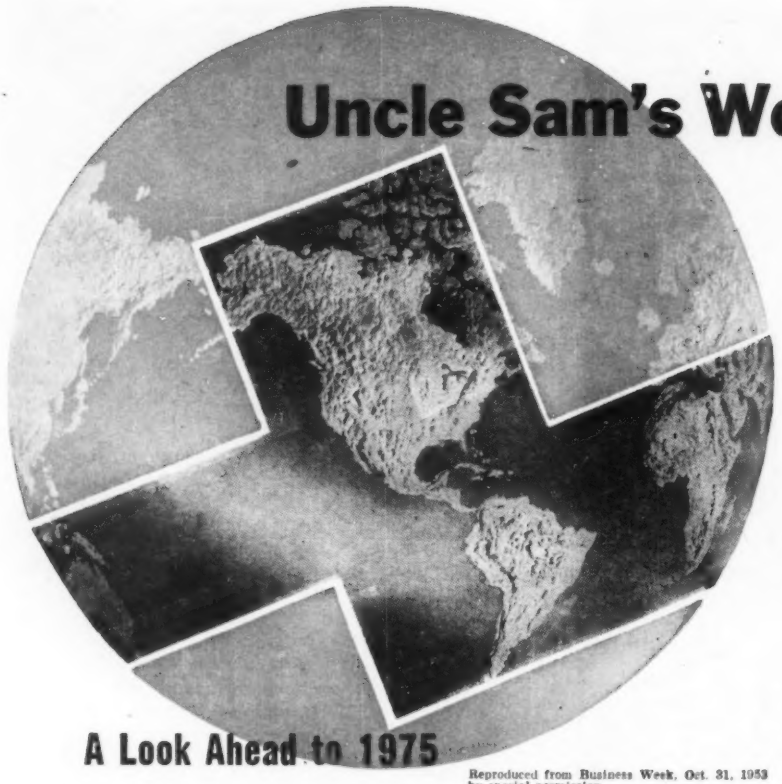
1. *Getting new oil lands for future development.* Sinclair has spent over $300,000,000 in the last five years to explore these lands and put new wells into production. As a result its production of petroleum is increasingly rapidly.

2. *Improving its products by modernizing and expanding its refineries.* Refining capacity has increased from 300,000 to 425,000 barrels a day since 1945. The new high-octane fuel must be produced in quantity to meet future needs of high-compression engines in both peace and wartime work.

(Continued on page 23)

Du Pont Company photo

Crystal-clear nose of "Lucite" plastic produced by DuPont for Martin bombers.



Uncle Sam's World Industrial Empire

A Look Ahead to 1975

In 25 years the major markets and investment areas of the U. S. abroad will be North and South America, including Canada, Africa, the Middle East, and Australia.

Reproduced from Business Week, Oct. 31, 1953 by special permission

ECONOMISTS deal with realities—money and markets, materials and manpower. But that doesn't mean that economists don't indulge in some crystal gazing. They have to. Only they call it the study of trends.

Well, some serious "trend-studying" has recently been done for *Business Week* by a group of economic experts. And their predictions of things to come—economically speaking—make fascinating reading. They foresee stupendous changes by 1975 both in our nation's economy and in the world's economy.

What will our economic life be like in 1975? Here are some glimpses of what's in store:

—One out of every four U. S. college graduates will find his job in such distant places as Dakar, Rio de Janeiro, Beirut.

—One out of every three Americans will spend at least one vacation outside the United States.

—Our vacations will be longer and more frequent. Transportation improvements will make it possible for U. S. tourists to spend a week end in, say, the North African Riviera, or Istanbul, Turkey.

The basic change, however, that the experts foresee is in our foreign markets. In 1975, the main area for U. S. business expansion abroad will be the Western Hemisphere, the Middle East, Africa, and Australia.

It is from this area, economists expect, that the United States will be receiving most of our raw materials. To this area, we will be sending a big share of our manufactures, our capital, and our know-how.

By 1975, the volume of trade between this area and the United States is expected to reach $50,000,000,000 a year. Today it is about $15,000,000,000.

Nothing short of an all-out atomic war, say the experts, can substantially alter the long-term trends. These trends are:

(a) The United States will increasingly need raw materials from abroad.

(b) The United States will need to make far more foreign investments to find a profitable use for its capital.

(c) Other nations will push their industrialization in order to attain greater self-sufficiency and better standards of living. That will make them better markets for U. S. capital and U. S. goods.

Now let us take a closer look at the world of 1975, in relation to (1) markets, (2) purchases, and (3) investments.

1. MARKETS

The world, as the experts predict it, will be divided roughly into three common markets—(a) the U. S. sphere (encompassing Canada, Latin America, the Middle East, Africa, and Australia); (b) the Far East (or Asian) market; and (c) the European market.

The three markets will trade with each other. Asia will send some raw materials to Europe and America and will buy manufactured goods in exchange. Europe will buy raw materials from America and Asia, and sell both luxury goods and capital equipment. The American area will buy raw materials, and send capital goods and investment to the other two markets.

The Asian market is expected to be dominated again by Japan. Japan will sell her manufactured goods to the countries on the Asian mainland and import raw materials from them in return.

The European market is expected to be different from what it was before the last war. One reason is the industrialization of the Soviet satellite states in Eastern Europe. This will no longer make it possible for them to supply Western Europe with large quantities of foodstuffs and minerals. All told, Europe will be a market area of at least 450,000,000 people by 1975.

WHERE WILL YOU BE—in 1975?

You, the high school teen-ager of today, will be in the prime of your productive life in 1975. You may have a job in Africa or Bolivia. You may spend your vacations on Australia's beaches. Your business may find you flying half-way around the world at any moment. You don't believe it? Take a look at this expert prediction about our future.

The biggest customer for Europe's industry, say the economists, may turn out to be Soviet Russia. Though the Soviet leaders are not likely ever to agree to peaceful co-existence with the West, they are already compelled to increase their imports from the free world. They are compelled to do so because of the mounting dissatisfaction of the Soviet people with the shortage of consumer goods and the generally low standard of living.

Need the United States fear competition from Western Europe and Japan? Or fear the industrialization of underdeveloped areas? Neither, say the economists. "History demonstrates that Europe and Japan buy more goods from us as their own ability to earn dollars is increased. And underdeveloped areas become better customers as they industrialize."

2. PURCHASES

It is in the import picture, according to the experts, that the biggest change in our economy will appear. Though the United States is already the world's greatest importer, by 1975 our total imports will be several times the volume they are today. For every ship now unloading foreign goods in an American port, there will be a dozen in 1975.

Most of the imports in 1975 will continue to be raw materials for our industries. But there will also be a tremendous increase in food imports. These will include both staples (such as coffee, cocoa, sugar) and luxury items (such as tropical fruits, cheeses, wines, frozen meats).

The shops on America's Main Streets will carry a larger amount and wider variety of European merchandise—British woolens, Paris dresses, German toys, Scandinavian furniture. On our highways, one will see many more European-made automobiles—French Simcas, Italian Siatas, British Jaguars.

What about our imports of raw materials? A special study has been made by the President's Materials Policy Committee, headed by William S. Paley. It forecasts a 250 per cent increase in our imports of raw materials by 1975. Whereas today we spend about $8,000,000,000 a year on imports, by 1975 the figure is expected to rise to $20,000,000,000.

Because consumption is continually outrunning domestic production, the Paley Committee predicts that we will have to import, for example, five times as much oil in 1975 as we do today. Our imports of iron ore will have to be multiplied tenfold. The same is true of many other minerals.

Not only will the United States be buying more goods abroad, say the economists, but it will be selling a great deal more. It will be a give-and-take proposition, with U. S. dollars also flowing back to the U. S.

Our farm surpluses (such as wheat and corn) will continue to be in demand abroad. As their standard of living rises, foreign countries will buy more of our consumer hard goods—from electric refrigerators to automobiles.

Undoubtedly, as the countries become more industrialized, they will manufacture some of these items themselves. But then, the experts maintain, our biggest sales by far will be in capital goods—machine tools, farm machinery, power plants.

Out of every tax dollar you pay—

this much (86¢) goes to support America's international responsibilities
THE UNITED STATES OF AMERICA
TAX DOLLAR
and this much (only 14¢) remains for domestic purposes

From World, America's Magazine of World Events

A breakdown of the national budget shows graphically how the U. S. has expanded, both militarily and economically, into the rest of the world.

3. INVESTMENTS

Peering into the future, the experts also foresee an expansion of U. S. investments abroad. Our foreign investments will increase, they say, for two reasons:

(1) We won't be able to obtain the foreign raw materials that we need without helping to finance their development.

(2) We won't be able to put our savings to work in the future without going abroad. For there will be more funds available for investment than our domestic industries can absorb.

At the present time, to be sure, there is not much scope for large-scale investment abroad. First of all, most of the underdeveloped countries aren't ready yet to absorb investment from the U. S. Secondly, these countries lack the stability to encourage U. S. investors.

We have invested, in the past seven years, only $13,500,000,000 in foreign countries, compared with $299,000,000,000 inside the United States. Most of the $13,500,000,000 went to safe and sound Canada, the more stable republics of Latin America, and the oil-rich Middle East.

In the years to come our investments abroad will show a rapid rise. By 1975, economists predict, our foreign investments will total $75,000,000,000, distributed as follows:

$5,000,000,000 in Africa
$5,000,000,000 in Australia
$10,000,000,000 in the Middle East
$15,000,000,000 in Canada
$40,000,000,000 in Latin America.

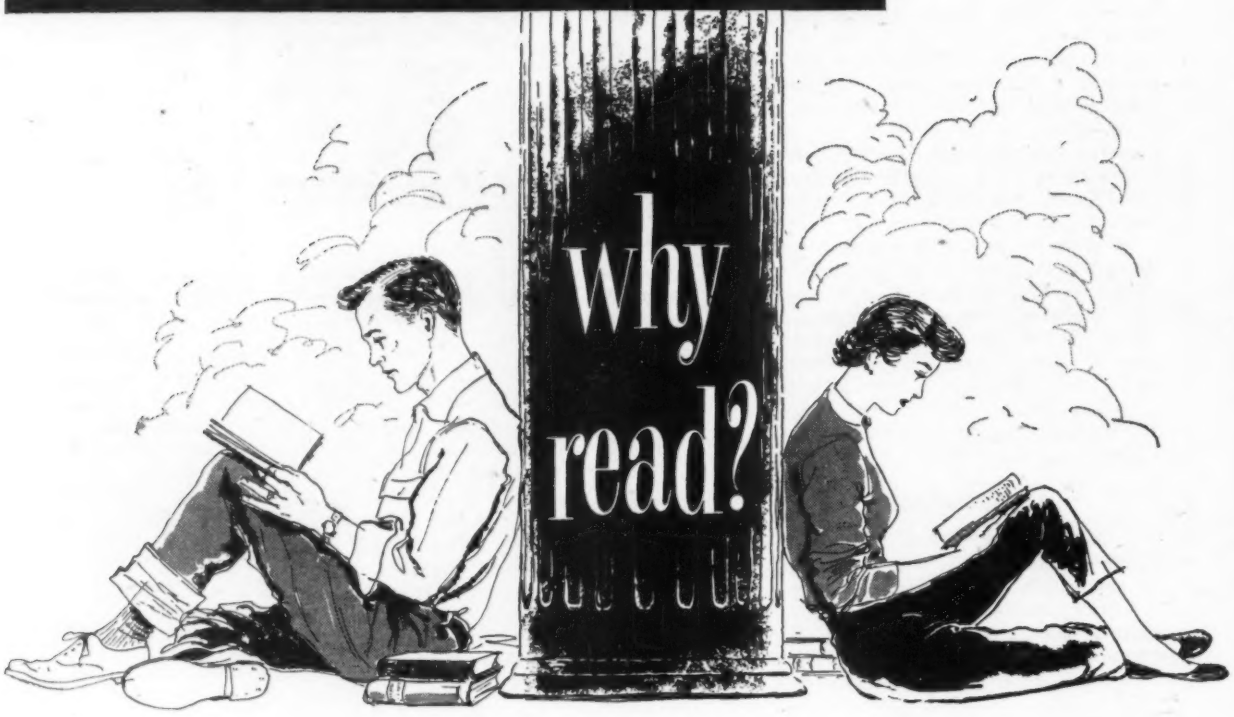
Such then is the picture the experts paint of our economic future—a richer, more abundant, and more prosperous America in a better-balanced world.

A.T.&T. Co. photo

World trade could not exist without the telephone. Cleo F. Craig, president of A.T.&T., holds a sample of the first undersea telephone cable against a map of its route.

GENERAL ELECTRIC'S ANSWER TO . . .

why read?



ONE of our teacher friends wrote us recently. Among other things his letter said, "At our school we have Shakespeare's plays on records. We can't get our boys and girls to read them any more."

That set us to thinking. We had always assumed that everyone liked to read if only for entertainment's sake. We were sure that everyone had to read, simply to learn the things that go to make up our day-to-day lives whether it's how to run a store, or how to put up a TV antenna, or how to make an outdoor fireplace. We had thought that, sooner or later, everyone has to go to the library to look something up.

We did a little checking and found, among other things, that Michigan State College thought it necessary to tell each of its freshmen: "Since about 85 per cent of all study activity depends on reading, it is undoubtedly your most important means of learning in college." Apparently, some boys and girls can get as far as college and still not realize the importance of reading.

We tried to imagine what it would be like at General Electric if no one did any reading. We can design a machine to operate by a record-playback that "tells" it what to do, but we don't envision a machine that can read our mail or reports.

We decided this idea wouldn't work very well. But the more we thought about it, the more we realized how important reading is. We put some of our thinking on paper. Here it is.

Everybody reads for learning or entertainment. That's not a startling statement, but it is a basic, enduring truth.

From our experience at General Electric we know how much we depend on reading. In a sense our company is like a school or college. Working at a job is a continuous process of learning. New things happen every day. New products are developed, new sales fields are opened up, better ways of doing a job are discovered. To us, reading is the most important means of learning.

Scientists in all free parts of the world exchange information because they know that co-operatively they can move along their researches faster. Salesmen need advance information about what design engineers are dreaming up. Financial men read statements about new tax policies so they can forecast their effect on company business. Employee relations men need to know the newest thoughts on benefit plans and retirement age. Plant managers must keep up with their company's policy.

Most of this information is obtained by reading and by digesting what has been read. It's no good to be off base a yard when a printed message is taking the place of oral instruction.

This is reading for learning—not entertainment—but the fact is that many men find themselves so interested in the things they have to read that they forget the whodunit or adventure story they might otherwise have picked up.

Industry, to survive today, is quite aware that performance is the criterion of the individual's worth. Never in the history of industry has "marrying the boss' daughter" been of so little personal value as it is now. Or belonging to the right lodge or golf club.

To build a hard-hitting team, industry places responsibility upon key personnel. The men and women of this group are moving constantly toward more exacting (and exciting) positions. These are the people—believe us!—who can read and speak and write concisely, clearly, interestingly. Absorption of knowledge through reading comes first.

We were talking in the office the other noon about the late A. R. Smith. A few of us remembered him vaguely as a man who wore a black derby and

who was one of the world's foremost steam-turbine authorities. Unlike most of his fellow-engineers, he had no college education. His "college" was a course of study with a correspondence school. For him, 100 per cent of his study activity depended on reading.

We do not believe that men of narrow learning have the understanding to bring along their successors. In fact, without a grasp of their company's purposes and obligations, they cannot understand its place in the vast pattern of national life. A man's mind is his eyes to see ahead.

Your teacher, we think, will confirm the following belief. Reading is variety itself. No one author, no one magazine's editorial staff has a corner on interpretation or final truth. All ideas are in transition especially in America, and by wide reading you are having the fun of accepting and rejecting and putting two and two together. You experience the luxury of becoming a thinker instead of a yes man. Such were the industrial pioneers 100 years ago who read in one of our most important technical magazines that there wasn't much of a future for electricity, yet who went ahead to establish the electrical age.

Another real dividend paid the reading man is his growing ability to take part in business or social discussion. Although the purpose of reading is not to show off in conversation, the reader is "in the know" and can listen wisely and speak his own piece to advantage. Often the strong, silent man—on the other hand—is a still water not running very deep.

If we want to know, in our spare time, how to bind a book, how to identify evergreen trees, how to mix up and bake a cheesecake, how to build a summer home, we go to the library.

Whether we are technical or business men, we are eager to keep up with published knowledge on many subjects: new alloys for jet engines, legislation on taxes, color television, social security—the list is endless. We are so close to the challenging demands of these years of technical progress and worldly unrest that we must keep our minds in high gear.

Yet we are aware that there are people who can't be communicated to, except through the medium of pictures. If we sound cranky, it's because we ourselves are not immortal; we just want to make doubly sure that every high school boy and girl in America, who will move into our positions, will be mentally prepared to absorb our contributions, build on them, and thereby keep our American system intact.

In the flood of school and college graduates coming to industry for jobs, we are not looking for bookworms. We don't want you to stick up your noses at the tribulations of the Dodgers, "doing-it-yourself," and the other non-reading pursuits that make for a happy, human life; but—what do you know?

Do you know your American history? If you know that a communal economic system was established in the early years at both Plymouth Colony and Jamestown, do you know why that system burst at the seams? Was Florida one of the thirteen original colonies? Are you a little ashamed of your brother American when he can't give a TV quizmaster the name of a single member of the President's cabinet? Don't put down the empty look on the victim's face solely as stagefright!

Ignorance is the father of apathy. If you expect to love the children that will be yours tomorrow, you had better heed a statement like this: "In a world that has seen Socialism, in some degree, spread throughout nearly all the major nations, America cannot permit her young people to take their blessings for granted and become indifferent to how those blessings have been made possible. The indifference or apathy that stems from ignorance causes young people to have little if any interest in defending our basic American principles which are under attack."

The leaders of peoples who would destroy us tell the masses to read—the party line. Here, we are free to read even the words, the arguments of our enemies. In fact, in America, the book or pamphlet your local library does not have is still obtainable; your librarian knows how to bring you almost any book cataloged in any library anywhere.

Why are there adults living in these exciting times who are uninformed about things that affect all our lives? Mainly, they do not read.

Why are there still a few young Americans in our schools who do not know the score? Same answer.

Is reading a bitter medicine that you have to get used to? You answer that one. We are prejudiced!

Why read? Almost all that is worth knowing is in words. It takes an easy familiarity with reading and a tremendous appetite for recorded knowledge—past and present—to keep in step with these fast-moving times.

Our high school English teacher used to say to us: "We are what we read." Later, an annoyed college instructor said, as we struggled over a long passage: "It's painfully true that the way not to become a fathead is to fatten the mind."

These were hard words, but in them was an elementary truth: If you liken your mind to a container, it is the only one we know of that the more you cram into it the more it can hold.

Your English teacher knows how to make you a better reader. With your co-operation, he will help you develop good reading habits. He will open up some everlastingly long avenues of fun and profit. One day you will be grateful for his help and pleased that you had good-enough sense to consult him. You can solve almost any problem if you know how to read it.

GENERAL ELECTRIC

SCHENECTADY, N. Y.

Trained Manpower and Womanpower Is Needed for Our Expanding Industries

HAVE YOU ever considered becoming an *operative* (machine operator, that is)? Did you know that there is a tremendous shortage of clerical workers? Or that we need four times as many young men to take apprenticeship training for skilled factory jobs than apply for it? Have you considered a career in science or engineering where tens of thousands of young people are needed to pioneer in the development of new products such as the "wonder drugs"? No matter what your special abilities and skills are, you're wanted on the industrial front!

To steal a popular phrase about George Washington, we might say that modern industry should be considered "first in war, first in peace, and first in the hearts of its countrymen." Why? Industry provides the weapons which protect us against foreign aggression. Industry gives us the highest standard of living in the world today. And, lastly, industry provides more jobs than any other field of employment.

New Worlds to Conquer

You're lucky. You'll be entering the business world in an age of miracles. Almost anything can happen. Industry is expanding rapidly. It is making old products, such as refrigerators, cheaper, better, and more efficiently. It is developing and producing scores of new miracle products. This spells opportunity for you. You can start on the ground floor and work your way to a responsible position in an expanding industry.

For example, there's the atomic energy industry. You know about the *Nautilus*, our new atomic submarine. Experts now are developing an atomic engine for airplanes and an atomic power plant to produce electricity. What next? The field is practically unlimited.

Other new industries offer equally exciting possibilities for careers—manmade fibers such as "Dacron"; electronics, which is developing the transistor, radar, and color television. Scientists are working to develop new "wonder drugs" that may cure infantile paralysis and cancer. New foods are being developed such as cake mixes, frozen foods, etc. Processes for making manmade rubber are being constantly improved. New chemicals are producing fertilizers, nutrients to make meat animals strong and fat quickly, improved paints, detergents (cleaners), water-repellent materials. New uses for plastics are being discovered.

These technological developments will mean thousands of new jobs in expanding industries and higher standards of living for everyone.

You probably take such miracles of the assembly line as a television set pretty much for granted. You shouldn't. Have you ever thought of the trained eyes and the skilled hands that are needed to assemble the delicate parts of such a set? You rightly admire the nursing profession. You also should credit the machine operators and assemblers who painstakingly make the "wonder drugs" and antibiotics which are so necessary to help doctors and nurses in their fight against disease.

You're right. This is the machine age—the age of mass, assembly line production. But machines are only part of the story. It takes the brains, knowhow, and skill of millions of workers to keep the wheels of industry turning.

Many modern factories are as attractive as office buildings. Assembly lines are arranged for worker comfort with machines, tools, and materials laid out to make work easy. Many workers sit down to work. Often there is air-conditioning; industrial smells and grime are more and more eliminated. Safety measures are constantly improving. Morning and afternoon "breaks" are provided for rest. Often there is a modern cafeteria selling lunch at cost or below. Larger plants have a nurse and often a doctor on the staff. Women workers wear smart clothing under neat aprons or smocks. Usually the pay is comparable to or even better than that given white-collar workers in offices and schools.

What are the beginning jobs like? You might start as a *floor boy or girl*. Or you might get a job as an *assembler*. High school graduates, at least 18 years old, are preferred. Floor boys and girls carry supplies and materials to machine operatives and assemblers and remove finished products. They also may sort and pack products. They may clean the establishment. Such opening jobs offer good opportunities for advancement to skilled *machine operatives, shipping clerks,* and then to *foremen*. The job of floor boy gives an opportunity to get around the plant and to show judgment and responsibility which brings chances for advancement.

Beginning Jobs

Girls find the best opportunities for beginning jobs as *assemblers* in light industries—radio and television, telephone, and telegraph equipment, small machinery, ball bearings, and instruments. Men predominate in heavy industries such as automobiles, farm machinery, and industrial equipment.

For most jobs as assemblers, good eye-hand coordination and finger dexterity are required. Job applicants often are tested for this and for ability to recognize colors. Most assemblers must be right-handed.

Assemblers fit and fasten parts together by hand, by solder, machine, or tool. A hand or foot press may be used for such things as putting snaps on pocketbooks. Tweezers are used in assembling some smaller objects such as watches and jewelry. Assemblers sometimes are assigned to test, inspect,

and pack assembled products. Pay is often on a piece-work basis and salary advances with the speed of performance. Some assemblers are promoted to *testers, inspectors,* and *foremen.* The work is usually repetitive but many find satisfaction in putting things together. Many factory workers are required to join labor unions.

Industries employ scores of other types of workers in addition to the machine operatives. At the present time—and probably for years to come—there is a shortage of clerical workers—*typists, file clerks, stenographers, bookkeepers, secretaries,* and *accountants.* Government regulations in recent years in connection with Social Security and the income tax have doubled and tripled the paper work in industrial and business offices. While office machines are a big help, the mass of this work still must be done by skilled clerical workers. Schools aren't graduating clerical workers fast enough to meet the demand for them.

"Paper Workers"

Industries also employ such specialists as *translators* to handle Spanish, French, and other foreign business; *artists* to design new packaging for products and to do the art work in company newspapers, bulletins, and advertising; *copywriters, publicity experts,* and others. There are especially good opportunities for advancement for male secretarial workers. Such secretaries work with top executives and thus have unusual opportunities to train for and get executive positions.

Industries often own their own fleets of trucks, ships, and sometimes even small railroads. These offer employment to thousands of *mechanics, drivers,* and other skilled transportation workers. Sales departments offer career opportunities to thousands of other workers.

Larger industries employ such professional people as *teachers* (to train workers), *psychologists, personnel experts* (to hire and promote workers), *dietitians* and other *cafeteria workers, nurses,* and *doctors.*

Earn While You Learn

Would you like to receive good wages while you receive a four-year education which can lead to top industrial positions such as *foreman, supervisor, plant manager,* or even to *vice-president* or *president* of the firm. Would you be interested in becoming a *machinist, electrician, boilermaker, sheetmetal worker, tool-and-die maker* or some other equally important skilled technician?

Then you had better investigate industrial opportunities in *apprenticeship training.* If you have the high school education, health, and mechanical ability required, industry is looking for you.

At the present time about 250,000 young men are signed up for apprenticeship training in this country. Experts estimate that there should be at least 1,000,000 taking these courses if American industry is to continue to expand, develop new products for the homefront, and keep us strong on the "cold" front. Not enough able young men know about and apply for the training which is offered free by scores of major industries (as well as by such trades as carpentry) throughout the country. Perhaps our national defense plans will make it easier for young men to get an earlier start in apprenticeship training. (The new emphasis in defense is on strategic weapons—atomic weapons and fast planes—rather than on huge armies.) Certainly trained technicians are as important in our defense as trained soldiers.

General Motors photo

Apprentice Eldon Penfield works with expert to become graduate electrician.

An apprentice is a young person who agrees to work for an employer under certain standards in order to learn a skilled trade (such as *mechanic* or *dressmaker*). Apprenticeship training often lasts four years. The apprentice learns his trade step by step with the help of skilled workers in his chosen field. Part of the training is on-the-job training; part of it is in study in night school or through correspondence courses. He is paid a rising scale of wages. His training progress is checked periodically. When the course is completed, an apprentice receives a graduation certificate and he becomes a qualified craftsman.

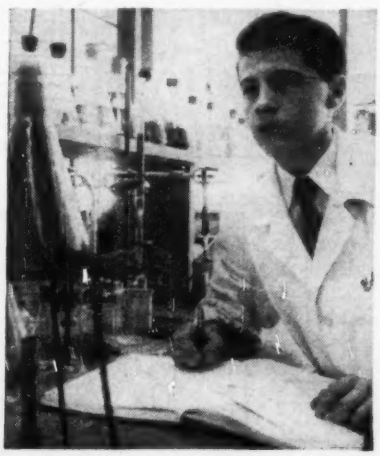
Today's Pioneers

Scientists and *engineers* are today's pioneers. Scientists—*chemists, physicists, biologists* and others—fight the "battle of the test tubes" to bring us new products—new foods, drugs, man-made fibers and rubber, etc. Engineers develop practical ways to produce these products at prices we can afford to pay. Scientists and engineers are key workers in our rapidly expanding industry. The new factory going up in your community may be the direct result of the pioneering work of scientists and engineers as well as of the willingness of industry to invest billions of dollars in America's future. You can thank the scientists, engineers, and industrialists as well as the skilled machine operatives for the countless labor-saving devices and comforts which you take for granted.

With our population growing so phenomenally and with our improving standard of living, industry looks confidently to the future. Industry also looks to you—the young men and women who will be running our industry of tomorrow. You're wanted!

Westinghouse photo

Science Talent Search finalist Mary Jeanne Kreek, 17, studies allergies.



USIS photo

Edison Lab trainee Gil Dixon specializes in science in 8-year work-study program.

Communism in the Americas

How can the American republics protect their "neighborhood" from the Communists?

That was the No. 1 issue, as the Tenth Inter-American Conference got under way this month in Caracas, Venezuela.

Twenty nations attended. Costa Rica was the only American republic absent. Its government refused to take part because it considers the government of Venezuela, the host country, as "non-democratic."

Two resolutions on communism were laid before the conference.

(1) The Dominican Republic proposed outlawing Communist political groups in the Western Hemisphere.

(2) The U. S. called for the American republics to act together against any country whose government fell under Communist control.

If the U. S. plan is adopted, the Rio Pact of 1947 might be used against communism in the Americas. One clause of this treaty provides for action if aggression (not necessarily *armed* aggression) threatens the independence of any American state. The foreign ministers of the American nations would meet to decide on joint steps to be taken.

Secretary of State John Foster Dulles heads the U. S. delegation at Caracas. He pleaded for unity in fighting communism in the Americas. He called communism an "alien despotism," and urged that "if it does not heed our warning and keep away, we shall deal with it as a situation that might endanger the peace of America."

The Secretary said: "There is not a single country in this hemisphere which has not been penetrated by the apparatus of international communism acting under orders from Moscow."

The delegate from Guatemala called the anti-Communist discussion a "maneuver against Guatemala."

What's Behind It: In Guatemala, a small Central American republic, Communists and Communist-sympathizers have gained important positions in the government and in farm and labor organizations.

However, Guatemala was not the only target of the U. S. proposals to act against communism. In British Guiana, Communist sympathizers nearly got control of the government a few months ago. A recent estimate shows about 250,000 Communist party members in Latin America—more than half of them in Brazil, Argentina, and Chile.

Many Latin American countries are, however, more interested in economic problems than in communism.

Most of these nations depend on trade with the U. S. About 60 per cent of their exports go to the U. S. and 54 per cent of their imports come from the U. S. They sell us food, cloth, metals, and other raw materials, and buy chiefly manufactured goods.

Latin Americans complain that, since the Korean War ended, prices of the raw materials they sell have gone down. But the prices of goods they buy have held steady.

Some Latin American nations favor setting up a permanent council, in Washington, D. C., to keep constant watch on U. S.-Latin American economic problems. Uruguay wants an "American customs union." Under this plan, the American nations would have lower tariffs with one another than with the rest of the world.

Dulles: "Red sky at morning — neighbors, take warning!" *(See story.)*

GOP Is 100 Years Old

The Republican party is celebrating its 100th birthday.

This week a "birthday party" in honor of the occasion will be held in Ripon, Wis. Ripon claims that the name "Republican" was first used at a meeting in that town.

Ripon citizens who opposed the spread of slavery met at the Ripon schoolhouse on either February 28 or March 1, (the date has never been determined exactly). At a later meeting in the schoolhouse, on March 20, 1854, announcement was made that a new political party, the Republican party, had been formed.

The schoolhouse still stands. On March 20 Republican leaders will gather there to light a "flame of freedom."

Citizens of Ripon plan a white marble memorial to shelter the flame. They have pledged themselves to keep the flame burning "as long as freedom lives in America."

Republicans of Jackson, Mich., plan a big "birthday" celebration there on July 6. The first Republican state convention was held in Jackson on July 6, 1854.

Terrorists Indicted

The five Congressmen wounded by Puerto Rican terrorists appear to be recovering.

One of them, Rep. Alvin M. Bentley (Rep., Mich.) was still in serious condition as we went to press.

The Congressmen were shot by terrorists—members of the fanatical Puerto Rican Nationalist party, which demands independence for Puerto Rico *(see last week's news pages.)* The deed shocked Puerto Ricans.

Governor Luis Munoz Marin of Puerto Rico flew to Washington to express to the President and the Congress the "indignation of my people" at "this lunacy."

In the week that followed the shootings, there were these developments:

1. The Puerto Rican terrorists (three men and a woman) were indicted by a Federal Grand Jury. The charges against them were assault with intent to kill and assault with a deadly weapon. If convicted, they face long sentences.

2. Security measures were tightened at the Capitol and the White House. Passes to admit persons to the White House and to the Senate and House of Representatives galleries will be more carefully checked.

3. In Puerto Rico, after a two-hour gun battle, the police seized Pedro Albizu Campos, leader of the terrorist Nationalist party. Arrested with him were 36 of his party followers. The next day the police rounded up six Communist leaders.

Puerto Rico is a Caribbean island smaller than Connecticut, with a population of about 2,200,000. The U. S. acquired possession of it in the Spanish-American War. In 1952, by an overwhelming vote, the Puerto Ricans approved a new constitution making their island a self-governing "Commonwealth" under the U.S. flag.

(Article on Puerto Rico coming in next week's *Senior Scholastic.)*

"Thanks, Uncle Sam!"

A refugee has shown his gratitude to America by making his insurance payable to Uncle Sam.

Five years ago Anton Topole and his mother fled Yugoslavia after his father was arrested by the Communists. Somewhere in their flight, Anton and his mother became separated. He does not know what happened to her. The young Yugoslav later found refuge in the U. S.

Now he's 19 years old and an airman 3rd class in the U. S. Air Force, stationed at Manchester, N. H. To show his love for his adopted country, Topole has named the U. S. government as beneficiary of his $10,000 G. I. insurance policy. This means that if Topole should die while in service, his $10,000 insurance money would go to Uncle Sam. Usually a soldier provides that his Government insurance should be paid to a close relative.

"I don't know if I have anyone left," Topole said. "I owe this country a great debt of gratitude which I can never repay. But I am trying."

The Newest Mineral

A new mineral, previously unknown to science, has been discovered in Arizona.

It will be named "navajotte" in honor of the Navajo Indians. The mine where the mineral was found is located on the Navajo reservation.

The earth's crust is made up mostly of minerals. They are substances that occur in nature, and which have a definite chemical composition. In other words, the chemicals making up the mineral are always blended in the same proportion. (Glass is not considered a mineral, because it can be made from various mixtures of substances.) Practically all minerals are of inorganic origin. In other words, they did not originate from animal or vegetable matter.

Fewer than 2,000 minerals are known to science, as compared with millions of plant and animal species. Thus the finding of a new mineral is an event in science. Only about 150 minerals have important uses.

Navajotte is described as a dark brown mineral composed of hydrated vanadium oxide. This means it contains hydrogen and oxygen combined with vanadium. Vanadium is used in steel-making to increase the strength of the product. Although navajotte is high in vanadium content, it is not now considered of much use because it does not occur frequently enough.

New Element

ELEMENT 100 is another new landmark on the frontier of science. The new element, as yet unnamed, was created in the atomic furnace. An element is one of the basic substances (such as iron, gold, hydrogen, mercury) of which matter is composed. There are only 92 elements which occur in nature. All the elements from 92 to 100 have been man-made in atomic laboratories. Element 100 is radioactive, decays after a few hours, and has no known uses.

Civil War "Battle"

A state of California claim which dates back to the Civil War has finally been settled.

The Federal Court of Claims in Washington, D. C., has awarded California $8,985.15 for recruiting soldiers for the Union side during the Civil War.

California had asked the Federal Government for $7,561,508.15. This sum included expenses not only for recruiting, but also for equipping and organizing the California force and providing extra pay and bounties for the volunteers. The state had been forced to offer extra pay and large bounties to persuade men to leave the gold fields and enlist.

The Court of Claims based its decision on a regulation made by Secretary of the Treasury Salmon P. Chase in 1861. This regulation provided for repayment of expenses by

United Press photo

STAR FOR HAWAII? The Senate is debating a bill (already passed by the House of Representatives) to make Hawaii a state. About 116,000 of the 593,000 Hawaiians made their feelings known last month by signing a "Statehood Honor Roll." This consisted of a 500-foot-long strip of paper asking Congress for "statehood *now*" (see photo). The paper was unrolled for more than a city block in the heart of Honolulu, Hawaii, for the signing. In photo, looking over the monster petition, are: left to right, Joseph Farrington, Hawaii's non-voting delegate to Congress; Vice-President Richard Nixon; Senator Homer Ferguson (R., Mich.); William Knowland (R., Calif.), Senate majority leader; Governor Samuel W. King of Hawaii. The Vice-President and two Senators are wearing Hawaiian leis.

troops "employed in aiding to suppress the rebellion." The court held that the California troops had been kept largely as a stand-by force to be used when needed and hence had not been actively "employed in aiding to suppress the rebellion."

His "Ticker" Ticks

Henry Lalus, 26, of Vandergrift, Pa., has a "ticker" that really ticks.

If you get within a few feet of him you will hear a clicking noise from his chest. It is the result of an unusual heart operation.

Mr. Lalus had rheumatic fever when he was nine years old. The disease damaged the valve that controls flow of blood from the heart to the artery known as the aorta. A physician told him the condition might prove fatal. He went to a Washington, D. C., surgeon who has developed an artificial valve operation.

The valve consists of a tube about three inches long with a plastic ball inside. It takes the place of the valve in the aorta.

The tube bulges a little in the middle. When the heart contracts, the ball pushes to the top of the valve and seals the opening. When the heart expands, the ball drops down, allowing blood to pass around it, through the thick part of the tube.

The ball makes a ticking sound against top and bottom as it moves up and down. Once a crowd of women shoppers on an elevator with Mr. Lalus nearly went into a panic when they heard the clicking.

With his new heart valve, Mr. Lalus leads an active life. About 40 persons in the U. S. are said to have similar "ticking tickers."

THE NEWS IN BRIEF

"LONG JOHNS": Here's a sign of changing times! For nearly 70 years the Wilson Brothers' Aetna Mill in Troy, N. Y., has been making long underwear, 100 per cent wool. At its production peak some 30 years ago, the company employed 500 workers and turned out 24,000 pounds of the product every week. Now the mill is closing. Except for a few winter sports enthusiasts and some people in the Northwest, nobody wants the old-time "long johns" any more, according to the company.

EGYPT'S REVOLT *(see last week's news pages)* is right back where it started. Last week President Mohammed Naguib took back the premier's job and the chairmanship of the army's Revolutionary Council from Col. Gamal Abdel Nasser. He took his old job as deputy premier. Elections are planned in June for a parliament that will prepare a constitution for Egypt.

A U. S.-JAPAN mutual defense pact was signed last week. The U. S. will provide military aid to build up a Japanese defense force.

AN "AIR ACADEMY" is assured. Both passed bills to create an Academy to train Air Force officers, similar to the U. S. Military Academy at West Point and the U. S. Naval Academy at Annapolis, Md.

J. ERNEST WILKINS, 60, Chicago lawyer, has been nominated by the President as a new Assistant Secretary of Labor. It is the first time that a Negro has been appointed to so high a U. S. Government post—just below Cabinet rank. The new Assistant Secretary will be the chief U. S. representative on the International Labor Organization, a U. N. agency. Since three-fourths of the world's population is non-white, the fact that he is a Negro will help him in his work, Mr. Wilkins believes.

Quick Quiz ON THE NEWS

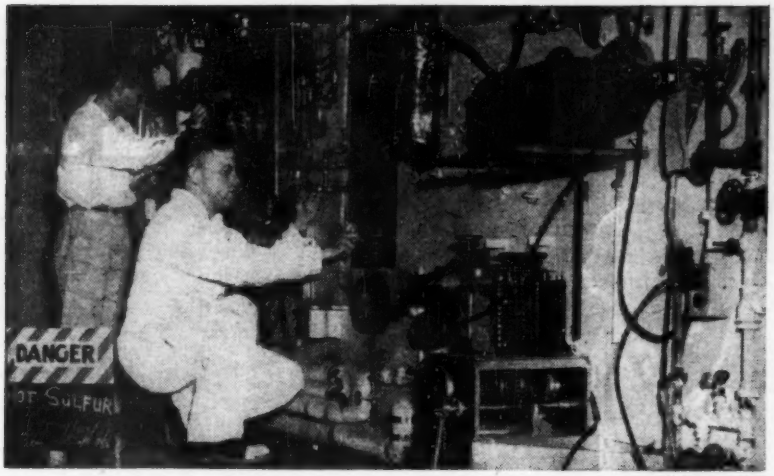
Based on recent developments in your Scholastic magazine

1. Puerto Rico, with a population of about (220,000; 2,200,000; 22,000,000), is an island in the (Caribbean Sea; Gulf of Mexico; Gulf of California). It is a (U. S. state; colony of the U. S.; independent nation; self-governing area which remains under the U. S. flag).

2. At the Tenth Inter-American Conference, now meeting in....., the U. S. considers that one of the main issues is communism in the Central American nation of.....

3. Ripon, Wisconsin, this week is saying "Happy Hundredth Birthday" to the.....

(Answers in Teacher Edition)



U.S. Army photo

Radioisotopes for peacetime uses are produced at the Oak Ridge (Tenn.) atomic energy laboratories operated by Union Carbide and Carbon Corporation.

General Motors, etc.

(Continued from page 13)

3. *Cutting the cost of oil transportation.* One of the biggest jobs in the oil industry is the moving of petroleum from the oil fields to the refineries and then to the consumers. Sinclair has spent nearly $100,000,000 since 1949 in developing a network of oil pipe lines. In 1953 Sinclair and another oil company built the first pipe line to cross the Continental Divide. The line runs from Sinclair, Wyo., to Salt Lake City, Utah, across a 6,000-foot pass. It replaced costly tank-car movements of oil. Sinclair also has modernized and expanded its ocean-going tankers and built a fleet of barges and tow boats for inland waterways.

4. *Distribution and selling outlets have been expanded.* A broad program of research to improve products and to discover new ones is being continued. A $16,000,000 plant is being built to use a new catalytic refining process.

Sinclair has a "Junior Board of Directors" to give able young men a chance to get executive experience in working on company problems at a high level.

Photo Bell Telephone Labs.

"Audrey," an electronic device which reacts to spoken numbers, made by Bell.

Fifty Million Telephones

Last November, the 50,000,000th telephone in the nation was installed in President Dwight D. Eisenhower's office. The telephone has become a "necessity" to most American families.

As a result, the American Telephone and Telegraph Co. and its associated companies are embarked on a multi-billion dollar expansion program. In 1953 the companies spent about $1,400,000,000 to improve and expand telephone service. About the same amount will be spent in 1954.

More than 430,000 people are waiting for telephones and more than 1,000,000 party-line customers want individual lines. Telephone service is being improved. Customers in such large cities as New York can dial many more of their own calls to outlying suburbs and nearby cities now. In three experimental areas (Englewood, N. J., Valley Office near Pittsburgh, Pa., and the Birmingham office near Detroit, Mich.) customers can dial nearly all of their long-distance calls. This program will be expanded.

The invention of the transistor (a speck of germanium embedded in glass, about three quarters the size of a dime) has helped make these automatic improvements possible. The transistor enables the telephone system to switch calls automatically along alternate routes if the original route is busy. The Bell System also is about to lay its first trans-atlantic telephone cable. The job will take three years. Bell also has played a major role in joining television stations into national networks through the use of telephone company coaxial cable and microwave facilities.

In addition, Bell's manufacturing company, Western Electric, is producing "Nike," the new anti-aircraft guided missile which will be used to guard American cities against air attack.

$190 per Minute

General Electric Co. is spending approximately $190 a minute (one billion dollars in ten years) to expand existing plants and laboratories and to build new ones. In scores of factories from coast to coast General Electric makes everything from electric light bulbs to jet engines. Its more than 200 products (mainly electrical appliances) are as well known on the home front as its work in jet engines, radar, and atomic energy is known on the defense front. General Electric operates the Atomic Energy Commission's Hanford (Wash.) plant where plutonium for atomic bombs is made. Late last year, General Electric offered to build a two-purpose reactor at Hanford to make both plutonium and electricity. (Expanding industry in the area needs additional electricity.) The AEC hasn't okayed the proposed project yet.

In the meantime, General Electric is building new plants and laboratories to expand its production of goods. The company has a large backlog of orders.

To help meet this demand, the company is building a multi-million dollar plant at Appliance Park, Louisville, Ky. The factory will make G. E. washers, dryers, ranges, refrigerators, freezers, garbage disposers, water heaters, and ironers.

Last Oct. 15, General Electric celebrated 75 years of electrical progress, marking the day in 1878 when Thomas Edison founded his company. This company was combined with another on

(Continued on page 38)

U.S. Rubber Co. photo

Two single threads of nylon support new nylon passenger tire and wheel.

What do you know?

A quiz on facts, ideas, and words in this issue.

I. THE ECONOMIC PICTURE

On the line to the left of each of the following statements, write the number preceding the word or phrase that best completes the sentence.

__a. The population of the United States today is about
1. 150,000,000 3. 110,000,000
2. 161,000,000 4. 212,000,000

__b. According to economists the population of the United States
1. is growing
2. is likely to remain about the same
3. is decreasing
4. cannot be accurately predicted

__c. A peak year in American industrial production was
1. 1905 3. 1932
2. 1921 4. 1953

__d. All of the following men are well know economists, *except*
1. Leon Keyserling
2. Colin Clark
3. Dexter Keezer
4. Joseph Martin

__e. All of the following features, provided by the Government, are intended to keep production up, *except*
1. unemployment insurance
2. farm price supports
3. sharp increases of taxes
4. insurance of bank deposits

__f. The big-spending age bracket, according to economists, is
1. the teen-age 3. 36 to 50
2. 20 to 35 4. 51 to 65

__g. The lowest point in the business cycle is
1. recovery 3. recession
2. prosperity 4. depression

__h. All of the following are basic materials from which steel is made *except*
1. limestone 3. coke
2. bauxite 4. iron ore

__i. The name Fairless is associated with
1. the steel industry
2. large scale farming
3. low cost building projects
4. department store sales

II. DICTIONARY OF ECONOMICS

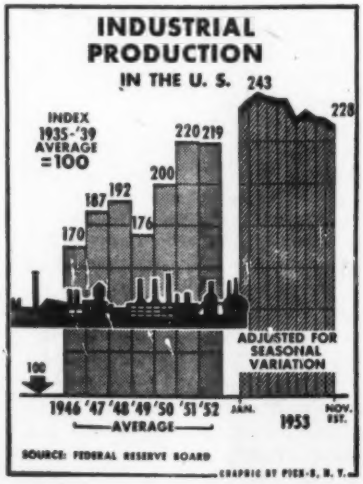
On the line to the left of each of the terms in Column A, write the number preceding the explanation in Column B which most closely defines it.

Column A

__a. capital goods
__b. consumers' goods
__c. foreign exchange
__d. gross national product
__e. index number
__f. inventory
__g. mortgage
__h. processing
__i. recession
__j. stock market

Column B

1. a method of barter
2. itemized list of goods held at a fixed time
3. place for buying and selling ownership in various businesses
4. goods used repeatedly in the process of production
5. a method of increasing production rapidly at low cost
6. a device for comparing groups of data
7. falling prices usually accompanied by increased unemployment
8. goods usually found in retail stores
9. total of goods and services produced during a single year
10. document indicating that a debt must be paid before possession can be complete
11. rate at which money from one country can be obtained for the money of another country
12. method of changing the form of goods so as to meet the demands of a consumer



III. GEOGRAPHY

On the line to the left of each of the states in Column B, write the number preceding the region in Column A in which it is located.

Column A

1. Pacific Northwest
2. West Coast
3. Southwest
4. Gulf Coast
5. Southeast
6. Great Lakes
7. Middle Atlantic
8. New England

Column B

__a. Alabama
__b. California
__c. Florida
__d. Illinois
__e. Massachusetts
__f. New York
__g. Pennsylvania
__h. Michigan
__i. Texas
__j. Washington

IV. READING A GRAPH

On the line to the left of each of the following statements place a "T" if it is *true*, an "F" if it is *false*, and "NS" if there is *not sufficient* information in the graph on which to base a conclusion.

__1. There was a steady increase in industrial production in the U.S. between 1946 and 1952.
__2. The jump in industrial production between 1949 and 1951 was owing to the demand created by the Korean War.
__3. The peak of industrial production in the U. S., during the period covered by the graph, came early in 1953.
__4. Between 1949 and 1952, industrial production in the U. S. doubled.
__5. There was a decline of 1% in industrial production in the U. S. between 1951 and 1952.

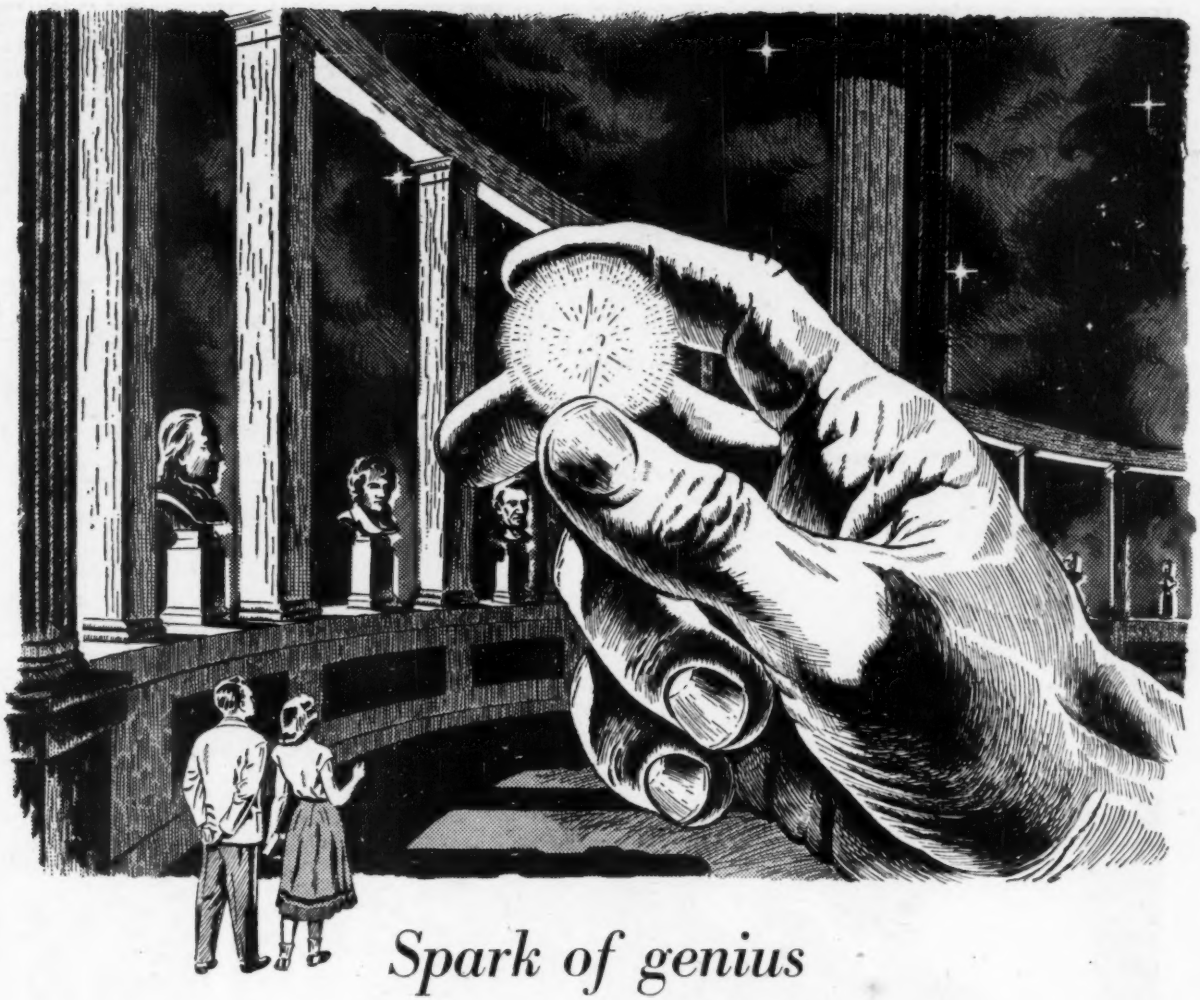
WORDS OF THE WEEK

bellwether (bĕl' wĕth.ēr)—Male sheep, wearing a bell on its neck, which leads the flock.

germanium (jûr.mā' nĭ.ŭm) — Grayish-white metal used in transistors.

Marconi (mär.kō' nē), *Guglielmo* (gōō.lyĕl' mō)—Italian engineer, inventor of wireless (1874-1937).

Mesabi Range (mĕ.sä' bĭ) — Range about 100 miles long in northeastern Minnesota, rich source of iron ore.



Spark of genius

"The great objective...
is to open the avenue of scientific knowledge to youth"*

Franklin...Fulton...Lincoln...Bell...Willard—geniuses? Yes, in the sense that they had the creative spark and the ability, courage, and leadership to see and speed to us inventions and ideas beyond the horizon of their day.

FUTURE IN TODAY'S YOUTH—The scientists, statesmen, inventors, and humanitarians of tomorrow are among our youth of today. The future depends upon our discovering, fostering and using their creative genius.

OPPORTUNITIES ABOUND for all of us "to direct the genius and resources of our country to useful improvements, to the sciences, the arts, education..."*

SCHOLARSHIPS AND FELLOWSHIPS—To help meet this need, Union Carbide has established undergraduate scholarship and fellowship programs in a number of liberal arts colleges and technical institutions to assist deserving students who are interested in business and scientific careers.

THE PEOPLE OF UCC hope you, too, will do everything in your power to discover and encourage the creative talent of our American youth. In them is our greatest assurance of an ever better tomorrow.

TO LEARN MORE about the Union Carbide scholarships and fellowships, their purposes, and the colleges and universities in which they have been established, write for booklet A.

*from Tablets in the Hall of Fame, New York University.

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30 EAST 42ND STREET UCC NEW YORK 17, N. Y.
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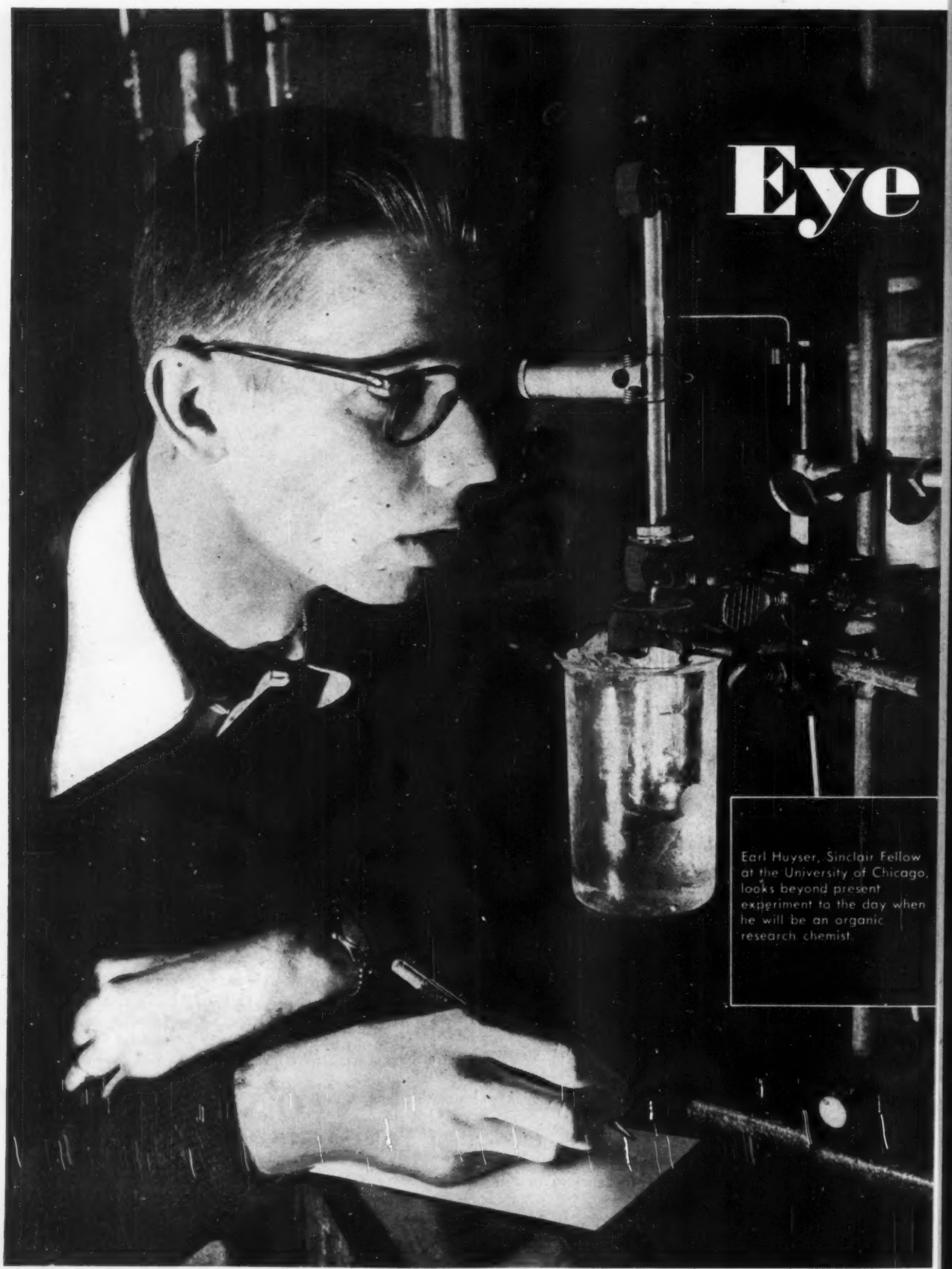
HAYNES STELLITE Alloys
DYNEL Textile Fibers
PRESTONE Anti-Freeze
UNION Carbide
NATIONAL Carbons
LINDE Silicones
BAKELITE, VINYLITE, and KRENE Plastics



Earl Huyser, Sinclair Fellow at the University of Chicago, looks beyond present experiment to the day when he will be an organic research chemist.

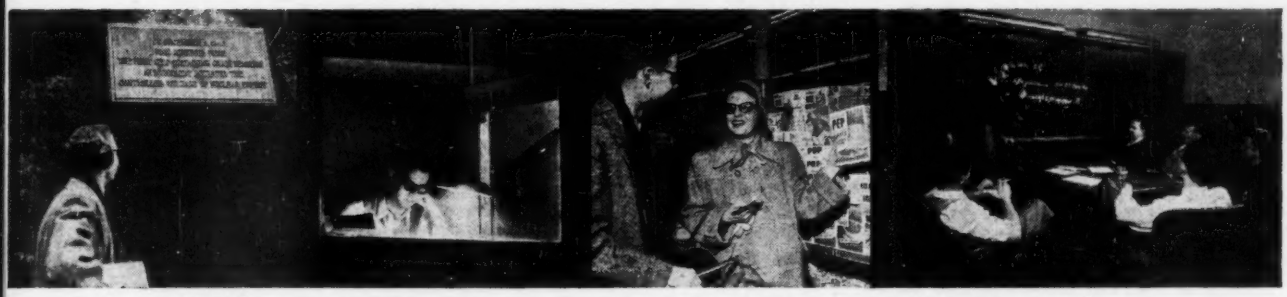
to the future

Earl Huyser is more than a talented student and future organic research chemist. In his way he is a personification of American Industry's faith in the future, as expressed in the development of young scientists.

Earl is one of 14 promising graduate students currently conducting research projects at 14 universities under the Sinclair Fellowship Program. Under the program, the recipient and his research project are selected by the university. Projects are usually "pure," or non-commercial, research and the results are added to the pool of general scientific knowledge.

The Sinclair Fellowship Program is just one way in which the Company looks to the future. Under a company-wide expansion program, known as the Plan for Balanced Progress, the Company invests substantial sums for future growth. To date, the Company has invested over $250 million to develop crude oil production, over $150 million to improve marketing facilities plus substantial investments in pipe lines, refineries, tankers and other phases of the oil business.

Important investments in the future, certainly, and productive ones as well – but never quite as satisfying as the investments in the Earl Huysers of yesterday, today and tomorrow.



En route to lab, Earl passes tablet commemorating spot where the first self-sustaining controlled nuclear chain reaction took place.

Earl puts in about 10 hours a day at the lab plus home study – still finds time to serve as vice president and secretary of the chemistry department's student affairs board.

Wife Barbara picks out appropriate cereal for energetic spouse. As this issue goes to press, young couple has 6-weeks-old daughter, Nancy Lou.

Earl at blackboard during seminar. His advising professor, Dr. W. H. Urry, is seen 4th from right.

Sinclair Oil Corporation, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR
A Great Name in Oil

ASSEMBLY LINE

At school Charlie had been the pupil, Mr. Cope the teacher—

now the situation was exactly in reverse . . .

by PETER BRACKETT

HARLAN COPE, new worker at the Bartwell Mfg. Co., glanced helplessly at the sandy-haired boy who sat across the aisle from him. The boy's hands were moving surely and rapidly as he soldered one set of TV tube parts after another.

How did he do it? Cope sighed in despair as he surveyed his own pile of tiny wires and parts. Even after two weeks in the factory, he had not been able to approach the daily quota. Every time he soldered two of the tiny metal parts together, it was as if he had never done it before. His thumbs seemed to get in the way of his fingers, and a nerve in his wrist insisted upon twitching when a steady hand was required.

Pete Jenks, the foreman, had watched Cope glumly that morning. He was a patient man, Jenks, but he had a quota to make good. And to Jenks a high school teacher, working in the factory for just a summer, was no different from any other worker; everyone had an obligation to that quota.

"Why don't you watch Charlie over there and get some pointers?" the foreman had suggested to Cope. "He's the best man we've got on this job."

"Thanks—I will," Cope had answered. Yet he had known, even in answering, that he would not. The boy had studiously avoided him since the first day that Cope had reported to work. Oh, he'd said "Hello"—with that hostile, expressionless look that Cope knew so well. But that had been the end of it. As far as Charlie Becker was concerned, Gope might as well not be working in the factory at all.

Harlan Cope was well aware of the reason for Charlie's attitude. It was that very awareness, in fact, which had brought him here to this assembly line —to this impossible pile of tiny metal parts that he must somehow solder together.

Cope's decision to work in this factory had been made earlier that month, when he had sat on the school platform and watched the line of graduating students parade before him. At that moment, Harlan Cope had felt personally responsible that Charlie Becker was not among them. The memory of their last interview had stung in his mind.

"You're a fool!" he'd cried out in a burst of impatience, after an hour of trying to "reason" with the boy. "Three months of hard work and you could pull up those two F's and get your diploma—so you walk out! And for what? To work in a factory! What kind of ambition is that?"

He had realized his error as soon as he'd spoken. The boy's face had frozen and his lips had tightened as he rose to leave. "I didn't expect *you* to understand," he'd muttered.

The boy's accusation was true, Cope had realized later. He had not understood. He had no more understood Charlie Becker, and his problems, than Charlie himself had understood the importance of listening to Harlan Cope lecture on poetry. But Charlie had been forced to hear the poetry lectures, whereas Harlan Cope had never been forced to enter Charlie's world.

Cope knew little about Charlie Becker, except that he came from a poor family, that he worked part-time at the Bartwell Mfg. Co., and that he was a reasonably intelligent but uninterested student.

It was not enough to know, Cope had realized after Charlie quit school. He was a teacher of Charlie Becker—as well as a teacher of the satisfactory

boys and girls who enthusiastically told him that he was the best English teacher Union High had ever had. If he were to be more than a teacher of English—if he were to be truly a teacher of boys and girls, he had something to learn.

AND so, one week after school had closed, Harlan Cope had found himself applying for a job at the Bartwell Mfg. Co. Bartwell manufactured the intricate parts that go into the making of TV tubes. It was largely an assembly-line factory, and Cope had become for the summer one pair of hands on a Bartwell assembly line.

And a fine pair of hands they were, Cope thought bitterly. He stopped his work to flex his stiff, aching fingers. These hands had smoothly and efficiently marked "A" and "F" on student papers; they had moved lightly, with assurance, through ponderous reference books. But now they seemed strangers who would no longer do his bidding. The minute metal parts slipped from their grasp; they shook when he most wanted to control them. He marvelled despairingly at the skill of a pair of hands like Charlie Becker's.

"Jenks told me to give you some tips." Cope looked up to see Charlie Becker standing over him. His face reddened; he found that he was ashamed that Charlie had caught him staring at his hands instead of working.

The boy's face was expressionless. "Let me watch you work first," he said, "so I'll know what you do wrong."

Obediently, Cope began soldering two of the small parts together, but he did it badly. Why, the kid's making me nervous, he thought. . . . I'm actually afraid of what he'll think.

Cope bit his lips. As he worked, he was conscious of cold wet beads of perspiration on his forehead. Then his hand slipped, and another reject was added to the growing pile to his left.

"Hold the parts between your thumb and forefinger," the boy suggested. "Put the piles nearer to you, so you don't have to reach so far."

Just find the verb, Cope thought to himself suddenly. You know what a verb is, don't you? And for a moment, he was back in his Union High classroom—standing over Charlie Becker while Charlie, tense and perspiring, had tried to parse a sentence. Cope remembered the impatience he had felt then, the question he had asked himself—how could the boy be so stupid?

"Rest your arms on the bench," Charlie was saying. "Hold the tweezers so. That will make your movements easier—and your nerves won't get so jumpy."

"Okay," Cope breathed. He took two more parts from the piles and soldered them together, repeating the boy's directions to himself. This time it went better.

Cope sighed in relief. "Thanks for the pointers, Charlie," he said. "They should help me. Jenks tells me you're the best man they have here," he added.

Charlie's face flushed slightly, but Cope couldn't tell whether he was pleased or annoyed. "I've been doing it a long time," Charlie said shortly. Then he walked back to his own bench.

The next day, Charlie came over to Cope again. This time it seemed to be of his own accord, and not because he had been instructed to do so by the foreman. "You're sitting wrong," he said. "Too slumped over. You won't get so tired if you sit up straight."

Cope laughed. "That makes sense," he said. "Seems to me I've made the same suggestion to students. I ought to practice what I preach."

The boy smiled faintly in response, and then looked at Cope in a puzzled way. "How—how did you happen to take this job for the summer?" he asked.

"Well," said Cope, "money could be one reason. . . ."

"Oh, I see." Charlie seemed to relax suddenly. Cope felt that his incomplete answer had satisfied the boy. The value of money was something that Charlie could understand and sympathize with. The value of the things that had really brought Cope to the factory would have seemed unreal to him.

"I'll have to get this quota of mine up, though," Cope mused. "Or I won't even be earning my base salary by the end of the summer."

"You'll make out all right," Charlie replied, with something like friendliness in his voice. "It takes a while to get the hang of it."

From that day on, Charlie became Cope's self-appointed instructor. He made countless suggestions as to ways in which Cope could speed up his work. He seemed to share Cope's distress when the quota continued to remain far beyond his reach.

For although Cope was now doing 150 job units an hour, he was still below the production quota of 200—and further still below Charlie's record of 300. In the mornings, he did fairly well. But by afternoon, his hands felt like swollen, fingerless lumps, and that was when he made mistakes and slowed down.

He marvelled that Charlie didn't become exasperated with him. He had dreams, at night, in which Charlie stood over him, leering, "You know what a verb is, don't you? Well, why don't you parse your way into a quota, Mr. Cope?" But in the daylight, the real Charlie was all patience and encouragement. "You'll make out," he kept saying. "You'll make out, Mr. Cope."

If Cope was slow in learning his skills, he did learn quickly to respect the work he was doing. It required a high degree of skill and manual dexterity. More than that, it required a kind of mental discipline that could not for a minute be relaxed. And he knew that he would never again take a TV set for granted. Every time he turned his own set on, he would feel a thrill of admiration for the hard work and technical know-how that had produced this instrument.

From time to time, Cope ate his lunch with Charlie. And between bites of sandwiches, they talked. They talked of things it had never occurred to either of them to speak of at school. Harlan Cope found himself telling the boy about his four years at teachers' college, and how he had had to do part-time work in the college library in order to pay his expenses. And Charlie, through scattered remarks, gave Cope a picture of his life: a four-room apartment, a father who couldn't seem to stick to any one job, a younger sister whom Charlie idolized, a mother often sick and frequently querulous.

Cope discovered Charlie's sense of humor, too—his love of the broad joke that Cope himself had never found amusing. He found Charlie's jokes amusing, though. It was the way Charlie told them, throwing his head back with a quick laugh, and saying, "Mr. Cope, did you ever hear the one about the elephant that joined a ballet troupe?"

THE one thing that they did not talk about was school. It was as though they had never known each other as teacher and student. The reason for this, Cope told himself, was simple enough. Here in the factory, they had learned to like and respect each other. In school, neither of them had made any effort to do so. So their relationship at school had, in a sense, not existed at all.

"I figure—maybe within three or four years—I can get to be a foreman here," Charlie confided in Cope. "That's what I want, anyway."

"And after that?" Cope suggested. "That won't be the end of the road for you, will it? Look at Hansen—" Hansen was the factory's production chief. He had started out, like Charlie, on an assembly line, then risen to foreman, and from foreman to the highly-paid supervisor of the entire factory production.

"Well—it's not impossible." Charlie grinned suddenly. "No harm shooting high, is there?"

"No harm at all," said Cope, "just what you ought to do, as a matter of fact." He was strongly tempted to add that Hansen had graduated from high school, and that he had continued his studies at night school. But he refrained. If he and Charlie Becker were becoming close, it was partly because Cope was carefully avoiding the sort of behavior or remark that might seem "teacherish." He did not want to risk Charlie's good will now by preaching a sermon on the values of education.

IT was in the middle of August when Charlie stopped Cope after work with a wide grin on his face. "Congratulate me, Harlan!" he announced triumphantly. "I've got the chance of a lifetime!"

"What's up?" said Cope. He smiled back, strangely pleased at Charlie's natural, unconscious use of his first name.

"You are now looking at the assistant foreman of our division," Charlie said strutting. "As of today." Then he became more serious and more humble. He explained to Cope that Pete Jenks, their foreman, had told Charlie that he would be tried out as assistant foreman, in recognition of his outstanding production record. They would give him a month. If he made good, the job would be his.

"Of course," Charlie added, "I don't know how I'll make out. There's a lot of paper work that goes with the job --checking piece-work rates, keeping production records--"

"You'll make out all right," Cope said--and they both laughed at the repetition of Charlie's earlier encouragement to Cope. "Congratulations!"

During the next several days, Cope watched with interest as Charlie took over his new duties. The boy was making a good start, he thought. Despite his youth, the other workers respected him. They realized that Charlie knew the work well, and that he would ask nothing of them that was impossible to do. And Pete, the foreman, was giving Charlie a pretty free rein. He seemed willing to trust the boy's judgment and let him assume responsibility.

Charlie was riding high. When he received his first pay check as assistant foreman, he ran over to Cope with a loud *Brother!* "Look at this check, Harlan!" he told Cope. "Isn't it pretty? Why, in three more years--" he stopped a moment as an idea struck him. "In three more years, I could save enough to send Sis to college."

"You want your sister to go to college?" Cope asked.

"You bet I do!" said Charlie. "That kid--well, she deserves the best."

"And the best--that includes education?" Cope knew he was pressing his questions pretty close. He was risking the possibility that Charlie should look at him suddenly and see--not the factory friend that Cope had become--but the teacher who had tried to make him stay in school.

Charlie's smile faded. "Girls should get an education," he said briefly. "Then they can polish up their husbands who don't have time for that sort of thing."

It might have been an awkward moment, but Charlie was feeling too jubilant about his increased pay check to become involved in an argument. "Let me treat you to a pizza pie before you go home," he suggested to Cope. "In celebration of the pay check!"

It was impossible not to share Charlie's pleasure in his good fortune. Cope even wondered whether he had not been wrong, and the boy right. After all, the important thing in life was to enjoy your work and do it well. If Charlie had found this at such an early age, was one missing high school diploma so important?

The one thing that troubled Cope was Pete. The foreman reacted rather strangely one day, late in August, when Cope mentioned Charlie to him. "The kid seems to be making out pretty well, doesn't he?" he had asked Pete.

Pete had hesitated. "Well--he's doing as well as I ought to have expected," he said.

Pete made no further comment, but his qualified reply left Cope puzzled. As far as Cope could see, Charlie was doing more than well. He had the workers solidly behind him, and he was on the job every minute of the day.

Cope's suspicion that all was not well deepened that Friday, when he suggested that Charlie and he have lunch together, and Charlie refused. "I've got to do some things during lunch hour," he said vaguely. And he had walked off, looking troubled, without explaining further.

Later that afternoon, Cope had seen Charlie and Pete in a serious huddle. Pete was holding some papers in his hands, and looking unhappy. Charlie was shaking his head, as though in confusion.

It was Monday before Cope had a chance to talk to Charlie. He found him sitting by himself during the lunch hour, and sat down beside him.

"I've got some news for you," he said. "I've finally made the quota--thanks to the instruction I've had from the best assistant foreman in the plant!"

Charlie looked at him with the hostile, "in-school" expression that Cope had almost forgotten. "Don't tell me you haven't heard," he said.

"I haven't heard anything," Cope said quietly.

"Let me be the first to tell you then," Charlie said with bitterness. "Beginning next week, I'm back on the line. The assistant foreman didn't make the grade--that's all."

"Pete told you why, of course?" Cope refused to be dscouraged by the boy's antagonistic attitude.

"Oh sure, he told me why!" Charlie laughed humorlessly. "I'm swell on the production end. I'm terrific with the workers. Only my figuring isn't so good. Seems I made four mistakes on the piece-work records. Two of them were just annoying. One set the factory back $100. The other cost them a cool $400. Pretty sharp for a beginner, don't you think?" He looked at Cope as though daring him to reply.

"That's tough, Charlie," Cope murmured. "I'm darned sorry."

The boy suddenly dropped his air of bravado. "Oh heck," he said, "I'm taking it out on you because I've made a flop of things. Don't pay any attention to the way I talk. I know you wanted me to make good on this job, Harlan, and I--well, I really appreciate your interest."

"If there's going to be any apologizing," said Cope, "let me start it off. I owe you an apology from pretty far back. Blowing my top at you the way I did when you decided to leave school--"

"It looks as though you were right, though," said Charlie. "If I'd ever understood that the stuff I did in school could be so important later on--well, for one thing, I might have learned a little arithmetic. That would have saved some money for the company--and a good job for me."

"School starts again in two weeks," Mr. Cope mused aloud. "And you know what? I think I'm going to be a better teacher, Charlie. Maybe I'll even get to the point where I teach English as well as you taught me how to solder parts. . . ."

CHARLIE smiled for the first time. "You were a good student," he said. "Cooperative -- attentive -- eager to learn--" He laughed aloud suddenly. "Who knows? Maybe I learned something, too."

Cope grinned back. "We might try each other out," he suggested. "It could be interesting."

"Could be," Charlie replied thoughtfully. "Well--we'll see."

Back at his bench, Harlan Cope stacked up his parts with unaccustomed energy. But his thoughts were far from soldering and TV tube parts. He was looking ahead to a day in June, 1955, when he would be sitting on the school platform, and Charlie Becker would march before him to receive his diploma.

To help you build a better America

No matter what career you choose, when *your* turn comes for helping to build a better America, you will find steel a ready and willing partner in progress.

United States Steel is spending approximately $300,000,000 this year to improve its facilities across the nation. It has recently completed the largest fully integrated steel plant ever to be built at one time. Under construction by U. S. Steel is the nation's most modern research laboratory. A goal of many years was realized in 1953 with the development of a way of using taconite to expand our domestic sources of iron ore. And just this January, shipments of ore began arriving from Cerro Bolivar, the new mining operation of a U. S. Steel subsidiary south of the Orinoco River in Venezuela.

It takes a long time and millions of dollars to develop new sources of iron ore. A modern steel plant is not constructed overnight. Clearly, U. S. Steel must work far ahead to anticipate the needs of the nation for years to come. In doing so with energy and enterprise, it does more than protect its own future. It also proves its abundant faith in *your* future.

USS

UNITED STATES STEEL

New Faces for 1954

"I'M DOING great, folks," the baseball rookie writes from spring training camp. "Today I put one over the palmettos in left field, and another homer of mine knocked a coconut right out of a tree in right."

Each letter gets more and more enthusiastic. To his family, the young hopeful appears to be a Ruth in the rough. Then one day there comes a wire: "This afternoon they started throwing curve balls. Will be home soon."

Morning glories abound on the citrus circuit. Only a few will ever make the majors. But it's fun looking them over and trying to figure which WILL make the "Big Top." Here's how the 1954 crop of rookies appears to us.

National League

Destined for Dodger stardom is Don Zimmer, firebrand shortstop. Though he played just 81 games before fracturing his skull at St. Paul last summer, his sensational play won him the American Assn. MVP award. He hit .300 and slugged 23 homers.

Keep an eye, too, on Dodger outfielder Sandy Amoros, who paced the International League with a .355 batting average and 23 homers at Montreal.

You can't help but notice the Braves' Gene Conley, stringbean pitching 6'8" giant. Gene had a 23-9 record at Toledo, led the American Assn. in strikeouts with 211.

The Cards forked over $100,000 for shortstop Alex Grammas, Red farmhand, and $75,000 in cash and players for Guillermo (Memo) Luna, Mexican southpaw knuckleballer.

Grammas hit .307 for Kansas City and is an elegant glove man. Luna came from San Diego, where he posted a 17-10 record and a glistening ERA of 2.69 with a sixth-place team. Outfielder Tom Burgess, .346 walloper at Rochester, and first baseman Tommy Alston, .297 at San Diego, could also be factors.

Though the Phils boast of Roberts and Simmons, they can always use another mound ace, and one may be Tom Casagrande, bonus fastballer who went 16-7 for Schenectady. With one spot open in the outfield, Danny Schell, .333 at Schenectady, and Stan Palys, .331 at Spokane, are top candidates.

Even before the season begins, Ray Katt has been named Giant catcher. Once a batboy for Minneapolis, Ray whacked .326 there last season, including 28 four-baggers.

The Reds look hopefully to Charley Harmon, live-wire third baseman who batted .310 at Tulsa; outfielder Wally Post, whose 33 homers set an Indianapolis mark and whose 120 rbi's were high for the American Assn., and Ed Bailey, bonus kid catcher.

The Cubs have some good ones in Gene Baker, .284 shortstop from Los Angeles, and Ernie Banks, second sacker who belted 23 homers for Kansas City. Baker's flawless afield, and his 20 round-trippers indicate power.

Pirate fans may want to watch Gerry Lynch, exciting infielder who socked .333 at Norfolk; Dale Long, Hollywood first baseman voted MVP of the Pacific Coast League; Curt Roberts, second baseman for Denver, and George O'Donnell, 20-game winner at Hollywood and PCL "Rookie of the Year."

American League

Familiar names, but nonetheless rookies, outfielders Bob Cerv and Bill Skowron are determined to stick with the Yankees this season. At Kansas City two years ago, Skowron hit .341, 31 homers. Last summer he dropped to .318, and now the Yanks are considering him as a first base possibility. Cerv batted .317 at K.C.

The Indians' most appealing newcomer, Rocky Nelson, has been with three National League teams, but he's a rookie in the junior circuit. At Montreal last summer he blasted 34 homers, 133 rbi's, had a .310 average. In the Little League World Series, he hit .672!

The White Sox are banking on outfielder Bill Wilson. The 200-pound slugger poled 36 homers at Memphis in 1950, was in service two years, then picked up where he left off by whaling 34 roundtrippers in '53.

What a story Jack Harshman will make if he earns a mound berth with the Chisox! Once a first baseman in the Giant chain, and up briefly with the parent club, southpaw Jack turned chucker, was 23-7 at Nashville.

A 6' 6" menace, Frank Sullivan, catches one's eye with the Red Sox. He had a 9-6 mark, 1.78 ERA, at Albany. Outfielder Robert (Dusty) Broome, .306 at Louisville, hopes to sweep up American league hurlers. One of Broome's outfield mates, Charley Maxwell, also has a chance. He clouted 23 homers, drove in 107 runs, batted .305.

Baltimore's Orioles, trying to make a new home for themselves after enduring the St. Louis blues, expect good things from first baseman Frank Kellert, who hit .289, 23 homers, at Oklahoma City; outfielder Jim Fridley, husky ex-West Virginia tackle who cracked 26 homers at San Antonio; Rocco Ippolito, who clouted 25, also at San Antonio; Karol Kwak, Tri-State League hitting champ at Anderson, S. C., with .359, Rinold Duren, 12-12 at San Antonio.

The Tigers are praying that fastballer Bob Miller, a five-figure bonus chucker from Morton High (Berwyn, Ill.), can do a man-sized job.

Good bet for rookie of the year is Vic Power of the A's, who can play first, third or the outfield. With Kansas City, Vic led the American Assn. in batting, .349; hits, 217; total bases, 324. He hit 16 homers.

Bob Trice, 21-game winner at Ottawa, including 21 complete games and four shutouts, is another hot prospect with the A's.

The Senators can boast of the smallest player in the majors, 5'3½" Pompeyo (Yo-Yo) Davalillo, a shortstop. He batted .305 at Charlotte, finished last season with .293 for 19 games with the Senators. He's been playing professional ball for two years, hails from Venezuela. Outfielder Bruce (Squeaky) Barmes, .320 with Chattanooga, may make it.

—ZANDER HOLLANDER

More High School Grads Now Choose the Job Training They Want in the Army

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Reserve your training BEFORE enlistment: See your local Army recruiter today. Fill out the application he will give you, choosing your training from the list of 87 courses below. If there is a vacancy in the course you request, a place will be held for you. If not, you may be offered an alternate course. If you decline, your obligation ends there.

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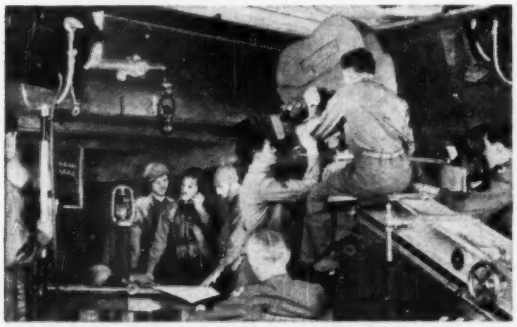

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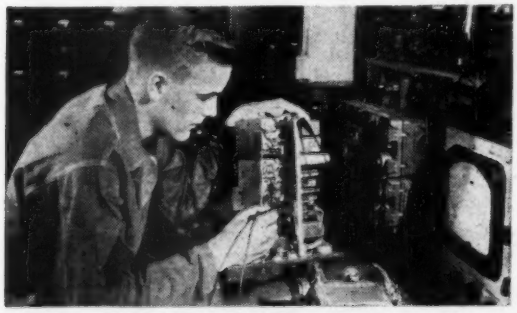
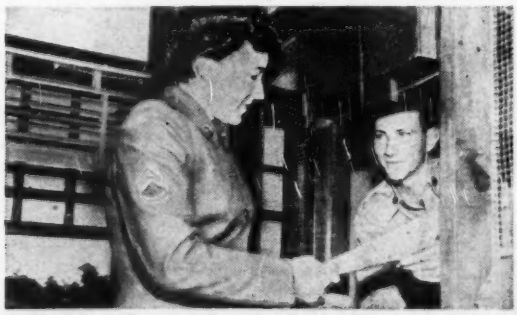


RADIO . . . leading to jobs such as radio engineer, radio electrician, communications engineer, or radio repairman.



FINANCE PROCEDURES . . . leading up to such jobs as bookkeeper, payroll clerk, bank teller, cashier, or audit clerk.

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Artillery Fire Control System Maintenance, Countermortar Radar
Artillery Fire Control System Maintenance, M33
Artillery Fire Control System Maintenance, SCR—584 and Director M9 or M10
Artillery Fire Control Maintenance, T38
Artillery Radio Maintenance
Atomic Weapons Electrical Technician, ABE
Atomic Weapons Electronic Technician, ABA and AFA
Atomic Weapons Mechanical Assembly, ABM
Atomic Weapons Nuclear Technician
Automotive Engine Rebuild
Automotive Fuel and Electrical System Repair
Automotive Tire Repair
Baking
Basic Medical Equipment Maintenance
Cable Splicing
Chemical Laboratory, Enlisted
Construction Surveying
Cryptography
Dental Assistant
Dental Laboratory
Dial Central Office Maintenance
Diesel Engine Repair
Electronic Fire Control Equipment Repair
Electrical Instrument Repair
Engineer Equipment Maintenance
Field Radio Repair
Finance Procedures
Fire Control Instrument Repair
General Drafting
Guided Missile Electronic Material Maintenance, SAM
Guided Missile Electronic Material Maintenance, SSM
Guided Missle External Guidance System Repair
Guided Missile Fire Control System Maintenance, SAM
Guided Missile Fire Control System Maintenance, SSM
Guided Missile Guidance Components Repair
Guided Missile Internal Guidance System Repair
Guided Missile Mechanical Material Maintenance
Guided Missile Repair
Heating and Ventilating
Heavy Antiaircraft Artillery Control System Repair
Heavy Antiaircraft Artillery Director Repair
Infantry Radio Maintenance
Light Antiaircraft Artillery Fire Control System Repair
Machine Accounting
Machinist
Manual Central Office Maintenance
Map Compiling
Marine Engineering and Repair
Marine Hull Repair
Meat and Dairy Hygiene, Enlisted
Medical Laboratory, Enlisted
Medical Technician
Neuropsychiatric Procedures, Enlisted
Occupational Therapy, Enlisted
Offset Press Operation
Office Machine Repair
Optical Technician
Personnel Management
Photographic Equipment Repair
Photolithography
Physical Reconditioning, Enlisted
Physical Therapy, Enlisted
Preventive Medicine, Enlisted
Public Information, Enlisted
Radar Repair
Railway Movements Operation
Refrigeration Equipment Repair
Soils Technician
Sound Projector Repair
Sound Recording
Stenography
Teletypewriter Equipment Maintenance
Topographic Computing
Topographic Surveying
Track Vehicle Repair
Transportation Movement Control
Watch Repair
Welding
X-Ray

WOMEN

Cryptography
Dental Assistant
Dental Laboratory
Finance Procedures
Machine Accounting
Medical Laboratory, Enlisted
Medical Technician
Neuropsychiatric Procedures, Enlisted
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BOY dates GIRL

by Gay Head

MAYBE you know most of the answers. Maybe you're up on the latest bop, the newest dance steps, the "Hit Parade" of records, movies, radio, TV, and books. Maybe you're in the know about dating, too. At least you know enough to get by—and what you don't know, you can look up in a book, if need be.

But there are some answers that are hard to find. One person's opinion is "No!" Another's is "Sure, it's okay!" Still another's is "Well, why not?"

So the answer on some things is that you have to make up your own mind by weighing the *pros, cons,* and *maybes.* Let's look 'em over:

Q. What do you think of high school kids' smoking and drinking?

A. To begin with, we aren't going to tell you that cigarettes or highballs spell sudden death, or that such indulgences immediately mark you as "a wild one." That's not true, and you know it. You've seen adults whom you respect smoking, and possibly your own family serves wine or other drinks on special occasions.

Even so, we don't think that smoking and drinking are intelligent pastimes at your age. They aren't intelligent because:

1. Neither is good for your health.
2. Neither is good for your looks.
3. Neither adds anything to your prestige or sophistication.

Let's look more closely at those three reasons. First, the health score. Your hygiene books tell you what excess use of nicotine and alcohol will do, and you've probably read or heard about the recent newspaper and magazine articles which caused such a furor over the possibility that lung cancer may be linked to cigarette smoking.

But when you ask "What's wrong with smoking?" you probably aren't thinking of excesses. You mean just an occasional cigarette, just a few a day. Granted that tobacco in small amounts may not noticeably impair your health, does it do any good? And how long would you stick to "just an occasional cigarette"?

If you look at the tobacco-using adults you know, you'll find more who smoke a *lot* than a *little.* (And much smoke is much money and much money for little gain. A lifetime worth of smokes would buy you a college education!) Both tobacco and alcohol are habit-forming. Alcohol, being a drug, is doubly dangerous in becoming a habit.

Now for your looks. Some of you may be "devil-may-care" about the future state of your health. But you'd think twice when an attractive appearance is at stake. No one thinks a cigarette in mouth or a cocktail in hand contributes to your attractiveness. Remember how ridiculous you looked when you were five and used to dress up in your mother's high heels? Or had your picture taken in Dad's hat? Well, you and alcohol look just as incongruous and much more distasteful to most people. Remember, too, that with cigarettes there are the accompanying nicotine stains you'll sport on your teeth and fingers. Hardly beautiful!

Then there's the third reason. There was a period in history when some people considered it "smart" and "sophisticated" to smoke or drink. The "flapper" cut quite a figure by bolting from accepted patterns of behavior for girls. But nowadays, when so many people smoke and drink, the original answer is "No, thanks." The fellow or girl who stands out in a crowd is the one who knows how to resist social pressure.

Now how about your opinion? Can you figure out any other answers? Can you give three good reasons *for* drinking or smoking? (We said *reasons,* not excuses.)

If you can't, you'd better respect the judgment and standards of your parents, your community, and your friends. They want the best for you. You want to be your best for them.

Redbook

"—and I just kissed your picture goodnight!"

Q. Boys seem to expect every date to end up in a big clinch. I don't and most of my girl friends don't—but every time we put up an argument, the boys act as if they'd never heard of anything so ridiculous. Couldn't you tell them a thing or two in your column?

A. Come on, fellows, let's give the girls a break. It's quite possible, in fact *probable,* that most of the girls who go out with you accept your invitations only because they *like* you—not because they *love* you. And good-night kisses, although they may have become a pretty popular institution, are still something most girls prefer (and rightly so) to save for someone for whom they have a "special" feeling.

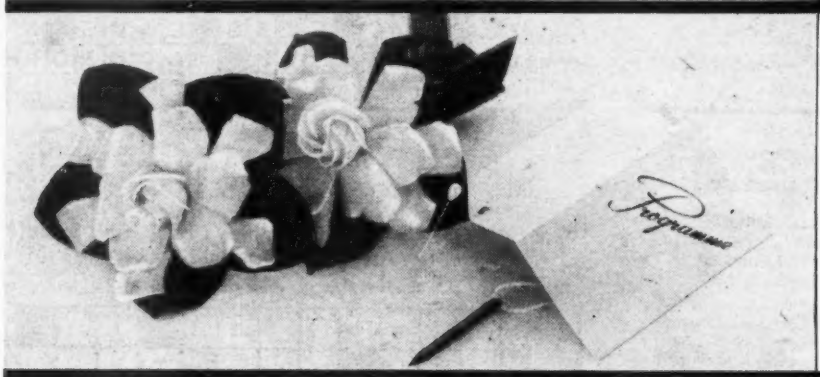
A girl doesn't have to be "mad" for you before you invite her to the movies, does she? We'll bet you've dated lots of girls whose feeling for you was strictly neutral—perhaps in hopes that the feeling might become a little more "mad" in time. Generally you have a vague idea of how a girl feels about you when you ring her doorbell—so why expect spontaneous combustion at the end of the evening? The world doesn't move that fast. For you to play the injured party just because you don't rate the fondest of farewells isn't fair.

If you're going to pull a long face merely because a girl doesn't make with a big clinch, you should tell her so when you invite her out. Why delude her into thinking that you're asking for the pleasure of her company? Why not put your cards on the table and say, "I'll take you to the movies, Jeanie, but it's going to cost you a kiss or three"?

What? You can't hear yourself saying that? Well, then don't try to make a girl feel like a poor sport when an evening doesn't pay off in fireworks. Most people think that kisses are for special occasions—and the girl has as much right as you to determine what constitutes a special occasion.

Boys who run their date life on a cash-and-kiss-me basis are in the long run about as popular as gold-digging girls. You can't buy affection, and even if you succeed in forcing some display of affection a girl doesn't feel, the girl will think less, not more, of you. And how about you—does your ego really feel so splendid when you realize that the good-night kiss you demanded and got was only payment for escort service rendered—and not the voluntary gesture of a girl who'd decided you were an extra swell fellow?

After the prom...it's Coke Time



The party's over, but not the fun. Now it's Coke Time... time to savor the flavor of the world's most popular soft drink. Sparkling Coca-Cola, blend of delicious good things from nine sunny climes. A matchless taste, a supreme quality. Have a Coke and be happy.

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. . . and that's what we mean! This letters column, a regular feature, is open to opinion on any subject and criticism of any kind, brickbats or orchids. We want to know *what's on your mind.* Other readers do, too. Address Letters Editor, *Senior Scholastic*, 33 W. 42nd Street, New York, N. Y.

Echoes from Rome

Dear Editor:

During the past summer I spent about six days in Rome with my family while we were returning from Formosa, where I spent the preceding two and one-half years. I was glad to see your cover of February 17, which showed the man on the large bicycle. We saw that man on one of the main streets of Rome. He had stopped for a moment, and a fairly large crowd had gathered. Much to my surprise, he suddenly opened his knapsack and began to peddle razor blades among the people!

Harry W. Fritz
Missoula (Mont.) County H. S.

How to Study—It Works

Dear Editor:

In the February 24 issue of *Senior Scholastic* an article was published on "How to Study." I appreciated the contents of the article very much, because it's on a big problem for most high school students, myself included. I never seem to have enough time for everything I have to do. It makes me feel pretty disgusted when I have to carry two or three school books home every day and others never take books home.

I think your study tips will help me find more time for homework and fun too.

Kathleen Smith
Austin, Minn.

OUR FRONT COVER

Power—thousands of crackling volts—will soon leap from this huge electric generator under construction at General Electric's turbine plant in Schenectady, New York. Outlined by showers of sparks from their welding torches, these workers are fastening together sections of the frame that will house the giant generator.

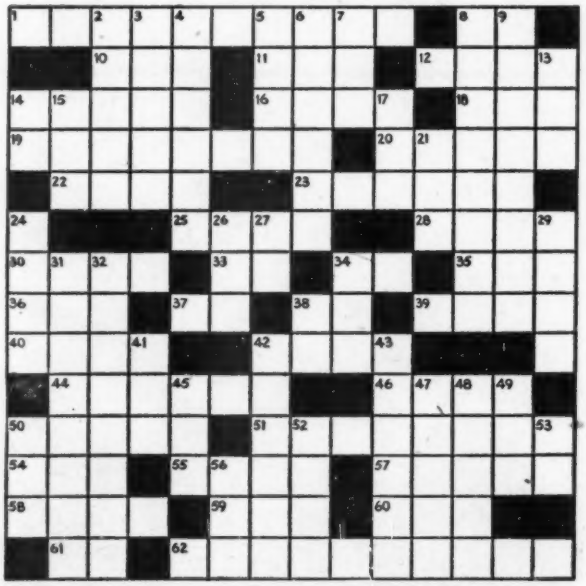
Answers to last week's puzzle

M	O	N	T	A	N	A	■	S	A	L	E	M		
A	■	M	I	C	H	■	G	O	R	Y	■	A		
I	T	■	R	E	■	C	O	N	C	O	R	D		
N	A	P	E	■	D	O	N	■	S	N	■	I		
E	R	A	■	S	A	N	E	R	■	S	O	S		
■	A	U	S	T	I	N	■	A	T	■	S	O		
T	■	L	E	A	S	■	W	R	A	P	■	N		
R	A	■	W	T	■	O	R	E	G	O	N	■		
E	N	D	■	E	L	D	E	R	■	R	O	B		
N	■	O	F	■	E	E	N	■	R	E	N	A		
T	A	V	E	R	N	S	■	M	O	■	E	T		
O	■	E	L	A	S	■	L	A	C	E	■	O		
N	O	R	T	H	■	J	A	C	K	S	O	N		

A Dog's Life

By Patricia Fletcher, Dolly Madison Junior High School
Arlington, Virginia

★ Starred words refer to dogs.



ACROSS

* 1. German sporting breed.
8. Recording secretary (*abbr.*).
10. Short for referee.
*11. Small, tan dog with a short, turned up nose.
12. Skin of a fur-bearing animal.
*14. Blue ribbon winners have this.
16. Tale, legend.
18. Instrumental duet.
19. Prehistoric elephant-like animal.
*20. _____ Blue, terrier.
22. "In them _____ hills."
*23. _____ Spaniel.
*25. Working breed, Great _____.
28. Revise for publication.
30. Holly.
33. Us.
34. Company (*abbr.*).
35. African antelope.
36. Male sheep.
37. Exist.
38. 12th letter of Greek alphabet.
39. Pleads.
40. Recedes.
42. Plant used in cooking or for medicinal purposes.
44. Revolve.
46. Obscure (*abbr.*).
50. Past, gone by.
51. Take in custody again.
54. Paid notices.
55. Fixed charges.
57. Pertaining to a zone.
58. Performs.
59. I _____, you were, they were.
60. Possess.
61. Road (*abbr.*).
*62. Animal doctor.

DOWN

* 2. _____ Setter.
3. Perle _____, ex-Minister to Luxembourg.
4. Afraid (*dial.*).
* 5. Lhasa _____, Terrier.
6. Delicate gradation of tone, color, etc.
7. Hens lay this.
8. Dredge again.
9. Passing over lightly or hurriedly.
*13. Small breed group.
14. After 12 noon.
15. Type of grain.
*17. American Kennel Club (*abbr.*).
21. Add to, piece out.
*24. Male parent.
26. Reverential fear.
27. Chemical symbol for neon.
29. Elephant's projecting tooth.
*31. _____ Retriever.
32. Ornamented with raised work.
*34. Mongrel.
38. Objective case of "I."
41. Streets (*abbr.*).
42. At, or by reason of this, this.
*43. Russian Wolfhound.
45. American Expeditionary Forces (*abbr.*).
47. Comedian Joe E. _____.
48. Cathartic drug.
49. Confederate States of America (*abbr.*).
*50. Underpart of the paw.
52. To be (*Latin*).
53. Chemical symbol for thallium.
56. Female sheep.

Students are invited to submit original crossword puzzles for publication in *Scholastic Magazines*. Each puzzle should be built around one subject, which may be drawn from History, Art, Science, or any other field of knowledge. Maximum about 50 words, of which at least 10 must be related to the theme. For each puzzle published we will pay $10. Entries must include puzzle design, definitions, answers on separate sheets, design with answer filled in, and statement by student that the puzzle is original and his own work. Keep a copy as puzzles cannot be returned. Give name, address, school, and grade. Address Puzzle Editor, *Senior Scholastic*, 33 West 42nd St., New York 36, N. Y. Answers next week.

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

✓✓✓✓ THE GLENN MILLER STORY.
(U-I. Produced by Aaron Rosenberg. Directed by Anthony Mann.)

Although it is almost ten years now since band-leader Glenn Miller disappeared in an Army plane during World War II, the records that established his popularity still rank high among all-time favorites. Perhaps it was the lasting quality of his music that induced the people at Universal to make this affectionate film biography.

As the talented music maker, James Stewart turns in another excellent performance. June Allyson is agreeable as Mrs. Miller and Henry Morgan is splendid as a close friend and pianist.

But the real accent in this film falls, quite properly, on the music. Such Miller stand-bys as *Chattanooga Choo-Choo, Tuxedo Junction* and *Moonlight Serenade* receive the full treatment, as well as his swingy version of *The American Patrol.* High point, though, is a colorful jam session involving Gene Krupa, Louis Armstrong and his All-Stars, and the fine trombonist who dubbed for Stewart. The whole picture is a musical treat!

✓✓✓ RIOT IN CELL BLOCK 11.
(Allied Artists. Produced by Walter Wanger. Directed by Don Siegel.)

The picture, photographed almost entirely at Folsom Prison in California, makes the point that old-fashioned penal methods are a danger to the community at large. Prisoners, the film states, want to work, to learn trades that will be useful to them on the outside. Mixing the mentally unstable and the hardened "con" with first offenders is a good way of insuring their return to the jails in the future.

But *Riot in Cell Block 11* is not a preachy film. All of this is implied through the action, as the spark of rebellion spreads from block to block throughout the great prison. Based on recent newspaper accounts of similar occurrences behind the walls of other penitentiaries, this picture provides a vivid and seemingly authentic account of why such riots break out. The end comes with no pat solution. It simply presents its problem and suggests that the answers lie with us on the outside. The cast, with no star names, is uniformly excellent.

MOVIE CHECK LIST

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

Drama: ✓✓✓✓The Conquest of Everest. ✓✓✓✓Annapurna. ✓✓✓✓Knights of the Round Table. ✓✓✓✓Julius Caesar. ✓✓✓✓The Cruel Sea. ✓✓✓✓Beat the Devil. ✓✓✓✓The Actress. ✓✓✓✓Roman Holiday. ✓✓✓The Robe. ✓✓✓All the Brothers Were Valiant. ✓✓✓Mogambo. ✓✓✓Take the High Ground. ✓✓✓Master of Ballantrae. ✓✓✓Tennessee Champ. ✓✓Botany Bay. ✓✓The Glass Web. ✓Project No. 7. ✓Othello.

Musical: ✓✓✓✓Give a Girl a Break. ✓✓✓✓Gilbert and Sullivan. ✓✓✓✓Lili. ✓✓✓Calamity Jane. ✓✓The Eddie Cantor Story. ✓✓New Faces.

Comedy: ✓✓✓✓Long, Long Trailer. ✓✓✓✓It Should Happen to You. ✓✓✓ Forever Female. ✓✓✓The Titfield Thunderbolt.

Documentary: ✓✓✓✓The Living Desert. ✓✓✓✓A Queen Is Crowned. ✓✓✓ The Sea Around Us. ✓✓Song of the Land.

take a fashion tip from a telephone teen

Ann's smart—she stitched some ball fringe to the collar and cuffs of last year's dress to give it a new fashion look!

And she was smart when she chose a career in the accounting department at the telephone company. She did not need experience and like all telephone jobs, hers is well paid and steady. Ann has only worked a short while, but she has already had her first raise.

Take a tip from Ann—with many different jobs at the telephone company, there may be one waiting for you!

BELL TELEPHONE SYSTEM

a good place to work

United States Steel

(Continued from page 12)

oped, because the Fairless Works uses electrostatic precipitators and other devices to eliminate the carbon particles from smoke.

U. S. Steel is by no means the only industry in this region. Even before it arrived, the whole Delaware valley, from Trenton on the north through Philadelphia to Wilmington on the south, was booming with expanding industry. Many large companies such as Du Pont and Kaiser have plants in the area, and many new satellite industries have located in the region. Where are all these people to live, and what kind of life will it be?

Planned Residential Towns

The answer to these questions is to be found in two major new communities that have sprung up in the past three years. One, known as Fairless Hills, built by the Danherst Corporation about three miles from the plant, is inhabited almost entirely by steel workers. It has already 2,000 houses with a population of 7,000, and is planned eventually to contain 4,500 houses. The other, Levittown, aims at 16,000 houses, half of which are already erected, and will eventually house a population of 65,000. It is the largest single planned community in the United States ever built at one time.

Fairless Hills offers a standard type of ranch-type houses on capacious lots. They have three bedrooms, a fully equipped kitchen with electric ranges, disposals, and automatic washers, and standard heating and plumbing units. By a combination of shapes, colors, and design, they manage to have no nearby houses look exactly alike. They can be bought on a 25-year mortgage with monthly carrying changes of $77, well within a steel worker's income.

Fairless Hills is already a highly organized community, bursting with civic consciousness. It has a community center building with a paid director, a woman's club, Boy Scout troops, a newspaper, volunteer fire company, a civic association, and a flourishing recreation department.

Levittown, the larger community, was planned and built from farmland by the famed Levitt and Sons, Inc., who have already completed an even larger community of the same name on Long Island. Two basic types of houses designed in excellent taste and selling from $9,500 to $11,000, offer many modern conveniences and beautiful landscaping. Levittown has two large shopping centers with chain stores, banks, and services. It has several Olympic-sized swimming pools, ten regulation baseball diamonds, dozens of playgrounds and Little League fields. Sites are offered free to religious denominations which wish to build.

The school problem in these bustling new communities is a tough one. The older schools of the rural townships are being rapidly added to by new grade and high schools. Levittown is laid out on a neighborhood pattern that is self-contained. Each master block is surrounded by a belt road. The curving interior streets are so designed that traffic on residential streets is kept to a minimum. An elementary school is set near the center of each master block.

To live in these new communities is a healthy, happy experience. Mothers, fathers, and children find here leisure, cultural enjoyment, and cooperation with many like-minded people for the betterment of their community.

General Motors, etc.

(Continued from page 23)

Oct. 21, 1879, to form the General Electric Co. Since that time, the electric industry has grown by leaps and bounds.

General Electric has played an important role in developing the atomic submarine and color television. Color TV sets will go into production this year. G. E. scientists are working on guided missiles and ultrasonics as well as developing new civilian products such as XR-10, the "refrigerator of tomorrow." It has latchless, magnetic doors opening on either side.

Faith in the Future

The companies described above are not the only major firms who are expanding rapidly to meet the challenge of the future. Most industries are doing likewise. E. I. Du Pont de Nemours & Co. is continuing its $100,000,000-a-year expansion program in man-made fibers, neoprene, titanium metal, film, methionine (an amino acid food supplement), and in other branches of its business. Du Pont's facilities for producing titanium metal will be tripled in 1954. It is building a new laboratory at its $40,000,000 "Dacron" polyester fiber plant at Kingston, N. C. It is also building a $10,000,000 plant for the manufacture of "Mylar" polyester film at Circleville, Ohio. "Mylar," a film with unusual strength, was developed by Du Pont experts.

U. S. Rubber and B. F. Goodrich are expanding. The Goodrich pilot plant now can produce man-made rubber with 25 per cent greater tensile strength than formerly at half the cost, by a process which takes 15 to 20 minutes as against the 12 hours previously required.

One big auto maker will install a $2,000,000 machine tool in April which will turn out engine blocks at the rate of 100 an hour. This mechanical giant performs 540 machining operations and is run by one man. Present methods require 35 to 75 workers for a similar production of engine blocks.

In 1954 Southern Pacific Railroad will lay out $3,800,000 to install remote-control dispatching along 95 miles of track in the rough mountain country of Oregon and California. A dispatcher 200 miles away can push a button to throw a switch or even to light a gas burner to keep a switch from freezing up along the track.

This trend toward automatic production of goods may mean less dirty work for workers and possibly higher wages. Greater production per man hour usually means a higher standard of living for everyone, which in turn calls for more workers to meet the accelerated demand for goods.

Illustration less than ½ actual size

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You Know the Type

Ted: "What kind of man is Duncan? I don't believe I have met him."

Ned: "Well, if you see two men off in a corner anywhere and one of them looks bored to death, the other one is Duncan."

Same Here

An extra employed at one of the movie studios in Los Angeles was asked by a director to do a comedy scene with a lion.

"You get into this bed," said the director, "and we'll bring the lion in and put him in bed with you. It will be a scream."

"Put a lion in bed with me!" yelled the extra. "No, indeed! I quit right here and now."

"But," protested the director, "this lion won't hurt you. This lion was brought up on milk."

"So was I brought up on milk," wailed the extra, "but I eat meat now."

Blissful Ignorance

The old commercial traveler was relating his experiences to a young man. "And don't forget," he said, "never try to sell an encyclopedia to a bride."

"Why not?" asked the young man.

The older man smiled cynically. "She always thinks her husband knows everything."

Ouch!

Carpenter: "Say, you really hammer nails like lightning."

Apprentice (*eagerly*): "You mean I'm fast?"

Carpenter: "I mean you rarely strike twice in the same place."

Beau Brown in Christian Science Monitor

"It's a periscope! Now he can fiddle with the tuning as much as he likes."

Prejudiced

Mr. Jones stared in a puzzled way at Mr. Clark, to whom he had just been introduced. "You look like a man I've seen somewhere, Mr. Clark," he said. "Your face seems familiar. I fancy you have a double. A funny thing about it is that I remember I formed a strong prejudice against the man who looks like you—but I'm quite sure, we never met."

Mr. Clark laughed. "I'm the man," he answered, "and I know why you formed the prejudice. I passed the contribution plate for two years in the church you attended."

Revelation

One day when Thaddeus Stevens was practicing in the courts, he didn't like the ruling of the presiding judge. The third time the judge ruled against Stevens, the old man got up with scarlet face and quivering lips and commenced tying up his papers as if to quit the courtroom.

"Do I understand, Mr. Stevens," asked the judge, eyeing him, "that you wish to show your contempt for this court?"

"No, sir; no, sir," replied Stevens, "I don't want to show my contempt; I'm trying to conceal it."

City Life

After fifty years in a country village a couple sold their farm and went to live in a large city where they could enjoy more conveniences. On their first morning the wife arose before sunrise as usual and said: "Isn't it about time you were getting up and lighting the fire?"

"No," yawned the old man. "I'll call the fire department. We might as well get used to these city conveniences right away."

The Gist of It

The university president was delivering the commencement address. In the audience were an elderly couple, obviously foreigners, who were having some trouble understanding the address to the class, of which their daughter was a member.

"What did he say?" finally demanded the mother, frowning.

"Who?" asked the father.

"The beega fella in black robes. What did he say?"

"He say school is out."

Qualified?

"You know," said the high school graduate, "I have half a mind to go to college."

"Well," his teacher decided, "that's as good as most."

BAD SKIN?
Here's help in a hurry!

Boys! Girls! Let's face it! About the only kind of party you can enjoy when your skin breaks out in spots—is a masquerade! And that's no fun when the masks come off!

If a teen-age skin problem threatens to cheat you out of your rightful share of popularity and admiration, don't give up! Here's a wonderful new way to help heal externally-caused blemishes, *fast!* The first step is *washing* your face with *greaseless, medicated* Noxzema and water!

Feel the refreshing tingle! The moment you apply Noxzema you feel a cool tingle that tells you Noxzema's famous medicated formula is starting to work on your skin problem — helping skin look smoother, fresher, more attractive.

1 START TONIGHT! Apply Noxzema liberally; wring out a cloth in warm water; then wash as if using soap. How CLEAN your skin looks! How much better it feels! Not dry or drawn!

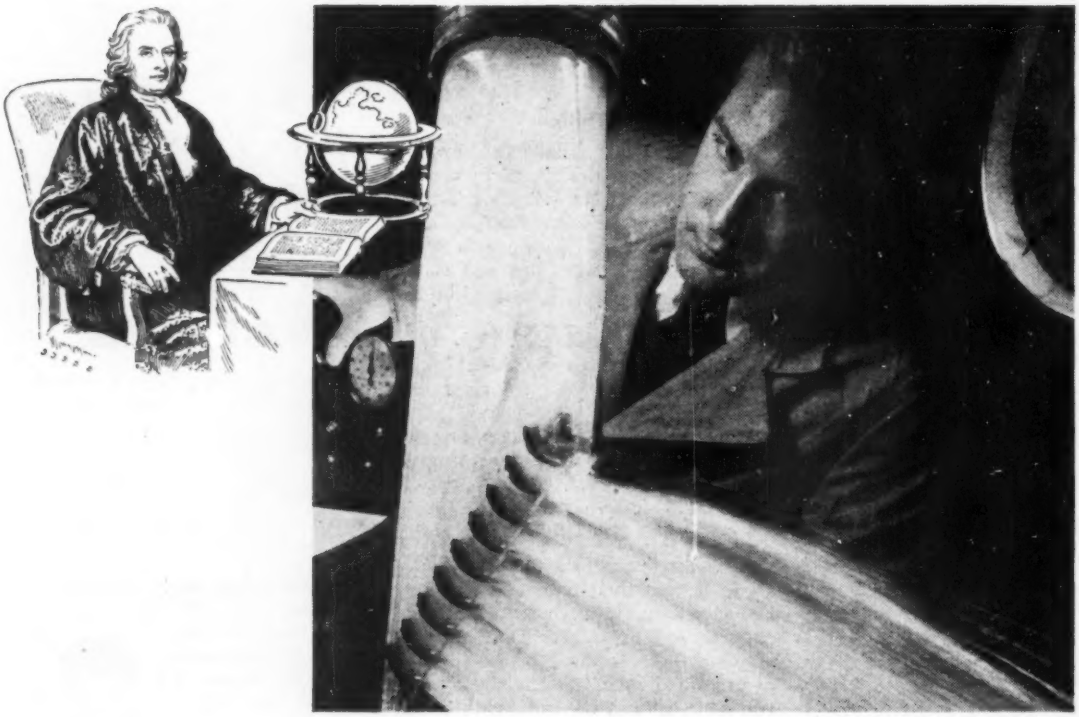
2 HELPS HEAL while you sleep! Spread *medicated* Noxzema over your face and pat a bit extra on any externally-caused blemishes to help heal them fast! Noxzema is *greaseless!* Won't stain pillow!

3 WASH again in the morning with water and Noxzema. Then apply *medicated* Noxzema over your whole face, to soothe and protect your skin all day! It's *greaseless!* Doesn't show!

Generous trial offer! Get 40¢ size jar of Noxzema for only 29¢ plus tax! At drug, cosmetic counters. After using this trial jar, get economical 10 oz. Noxzema for only 89¢ plus tax.

NEWS FOR SCIENCE STUDENTS!

17th century physicist helps GM engineers build better automatic transmissions



Better read your textbooks carefully.

Those textbook pages carry plenty of meaning for the modern engineer.

Take the law of Isaac Newton, discovered way back in the 17th Century—that the "force is proportional to change in motion."

Much of General Motors engineering in the field of torque converter type transmissions like Buick's Twin-Turbine Dynaflow is based on that three-hundred-year-old discovery.

For instance, the forces developed by the turbine blades in a torque converter are proportional to the change in motion of the oil flowing between them at velocities as high as three thousand gallons per minute.

So to test blade designs for desired performance and efficiency, General Motors engineers constructed the transparent device shown in the picture. Here high velocity water flow is observed for proper streamlines, while the force and change in motion are accurately measured. A quick way to find which blades do the best job.

We point this out merely as another of the many, many daily examples of how our engineers make use of textbook fundamentals to help design better General Motors automobiles.

Yes—better read those science textbooks carefully. Between their covers is the knowledge which can lead you to a fine future as an automotive engineer.

GENERAL MOTORS

"More and Better Things for More People"

Your Key to Greater Value — The Key to a General Motors Car

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UNITED MOTORS SERVICE • AC SPARK PLUGS

Hear Henry J. Taylor, on the air every Monday evening over the ABC Network, coast to coast.

A Lesson Plan Guide for "Why Read?"

Aims

To emphasize the importance of reading as a communications skill, essential (1) as a tool for citizens in a democracy who must be well informed and think straight if the free world is to defend itself successfully; (2) as a tool for getting ahead in business and industry; and (3) as a rewarding and enjoyable leisure-time activity.

Motivation

If you can read your assignments in half the time it takes others, what advantage do you have? Is reading merely a school skill that can be discarded in the business world? Or is it a skill essential to success in most fields of endeavor? What successful workers do you know who need to do no reading at all? What kind of reading must a service station operator do? A truck driver? A waitress?

Procedure

Study "Why Read?" prepared by the General Electric Co., and discuss the major points made, using this outline: What types of reading will you be expected to do for each of the following?

1. *Business world*—especially for the work you're considering as a career. (Employment application form, bulletins and announcements, company rules, letters, etc.)
2. *Citizenship and straight thinking.* (The reading you'll do to be well informed on local, state, national, and world affairs—so that you can get the facts and make up your own mind.)
3. *Social world.* (The reading you'll do to know what your friends are talking about when they discuss business, science, books, art, music, life in general.)
4. *Home work.* (The "how to" reading you'll do so that you can make or do things—cooking, sewing, carpentry, etc.—for your home.)
5. *Hobbies and enjoyment.* (The reading you'll do to know more about your hobby—photography, stamps, etc., and the reading you'll do for the sheer joy of reading.)

Discussion Questions

How can you become a better reader? Why is being able to understand what you read even more important than being a speed reader? What are the three speeds of reading and when do you use each? (Studying, rapid reading, and skimming.) How good a reader should you be in order to guarantee success in college?

In what sense is the General Electric Co. like a school or college? How will the ability to read well help you to get ahead in industry? How can reading help to make you a thinker instead of a "yes" man? What does this statement mean: *We are what we read*?

"AD WISE"

A number of advertisements in this special industry issue were prepared especially on the theme of "Our Faith in Your Future." They tell what industry is doing to meet the needs of a rapidly growing America. Students may glean much information on industrial development and on vocational opportunities in industry by studying these ads. (*Junior Scholastic* doesn't carry the Mutual Benefit or the Union Carbide ad.)

1. *Mutual Benefit Life Insurance advertisement:* What kinds of life insurance pay you benefits while you're still living? Why was life insurance originated? What fact indicates that "living insurance" is especially popular?
2. *Du Pont advertisement:* Why is an adequate supply of trained scientists and engineers essential for the growth of the chemical industry? How is the laboratory scientist helping the growth of American industry? Why is titanium so important in the aviation and other industries? How does 3-D give the impression of depth in movies?
3. *Union Carbide and Carbon advertisement:* In what ways were Franklin, Fulton, Lincoln, Bell, and Willard geniuses? What opportunities do youth have in the business world and the professions of tomorrow? How is Union Carbide helping able young people? How can you learn more about Union Carbide scholarships and fellowships?
4. *Sinclair advertisement:* What program does Sinclair have to demonstrate its faith in youth's future? In what field is Earl Huyser specializing? What kind of work-study day does Earl have? How is "pure" research different from commercial research? What is Sinclair's Plan for Balanced Progress? Why does business give scholarships to able youth?
5. *U. S. Steel Corp. advertisement:* How is U. S. Steel proving its faith in your future? What is U. S. Steel doing to improve its facilities this year? What goal did it realize in 1953? What is taconite and where does it come from?
6. *Bell Telephone System advertisement:* Why was Ann wise to choose a career with the telephone company?
7. *General Motors advertisement:* Why should you read science texts carefully if you want to be an automotive engineer? How does General Motors test blade designs for desired performance and efficiency?

Off the Press

Compton's Pictured Encyclopedia and Fact-Index. 15 volumes; about 400 to 600 pages each. F. E. Compton & Co., Chicago 10. $109.50.

This new edition of *Compton's Pictured Encyclopedia* maintains the usual high standards of readability and scholarship. The 15 volumes, with subjects arranged alphabetically, are characterized by abundant illustrations in black and white with many in color.

Elementary school students who are faced with the traditional unit on the American Indian will find the clear print and language of this encyclopedia understandable. Students in the upper grades and high school will find a wide range of material in the newly revised article on India. Among other new contributions, which help to explain the addition of some 200 pages to the current edition, are those on Vocations, Thomas Jefferson, Dogs, Missouri River, Chicago, and Arithmetic. The fact-index at the back of each volume offers a quick guide to more detailed treatment.

A Court for Children. A Study of the New York City Children's Court, by Alfred J. Kahn. Columbia University Press, N. Y. 359 pp., $4.50.

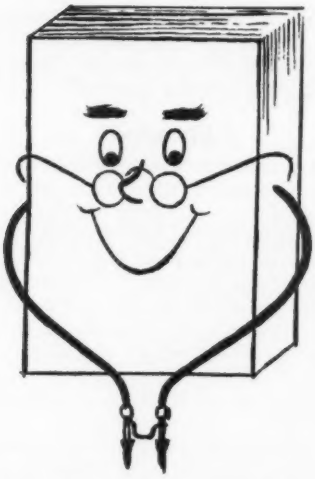
"The juvenile court movement presented society with a dream and a challenge," writes Dr. Kahn, who holds the first doctorate in social welfare granted in New York State. That the dream is at variance with reality is made clear in this on-the-scene study of New York City's Children Court.

Each year the overburdened New York court handles more than 7,000 children under 16. "A minority of the children are served with both kindness and skill by those judges, probation officers, and other staff members who have understood the purpose of a children's court. . . . The majority . . . receive service which does not reflect the juvenile court movement's aspirations . . .," according to Dr. Ka

In this comprehensive and readable study, Dr. Kahn views delinquents—a term he does not like—as troubled children whose behavior is symptomatic of underlying causes. Dr. Kahn observed judges, probation officers, attendance officers, medical personnel, and others at their work. His evaluation of case reports adds substance to some of his generalizations about the court's inadequacies. Cognizant of the community's unwillingness to finance the improvements urged by some judges, Dr. Kahn is firm but fair in his findings. His recommendations invite remedy rather than antagonism.

—Howard L. Hurwitz

HAVE YOUR STUDENTS READING PHOBIA?



Try Dr. TAB's Remarkable Remedy!

Find it difficult to get your students to do unprescribed reading? Here's a remedy that works like magic! TAB (Teen Age Book Club) provides a unique plan that is working wonders in overcoming the reluctance of many students to read voluntarily. Listen to the words of one of the thousands of teachers who are using the Teen Age Book Club to inspire students to read on their own. *"This club has increased the interest in reading in my class about 75%. I have never found a method so successful in developing student reading interest!"*

HOW THE CLUB OPERATES

The Teen Age Book Club stimulates young people of school age to read for pleasure by providing them with many of the benefits available to adults through the Literary Guild and the Book-of-the-Month Club—at a cost within their means.

Each month Club members may choose from among 16 popular 25¢ and 35¢ pocket-size books—a total of 160 books each school year. Books are selected both for literary merit and youth appeal by a board of reading experts. Titles are widely varied so that all members may readily find books suited to their interests and age level. Many titles are exclusive with the Club and cannot be obtained through newsstands, drug or department stores. List includes:

Novels	Classics	Sports
Short Stories	Drama	Animals
Science Fiction	Adventure	Hobbies
Mysteries	Humor	Reference

NEED NOT BUY SPECIFIC NUMBER

Joining a Club does not obligate members to buy a definite number of books. They may buy as many or as few as they wish of the books offered during the year.

COSTS NOTHING TO JOIN

There are no dues, no fees of any kind in the Teen Age Book Club. Books are mailed postpaid and a handy kit containing all materials for operating a Club is supplied free. This includes (1) a simple, easy-to-follow Manual of Instructions, (2) Class Membership Record, (3) order forms, (4) sample book, and (5) TAB NEWS—a 4-page illustrated bulletin containing descriptions of coming books. The Club is organized so that students can run it themselves with little or no work on the part of the teacher.

FREE DIVIDENDS

A popular feature of the Club, and a strong incentive to the formation of regular reading habits are the free dividends. For every four books purchased, Club members choose a free book at the end of the semester.

Some of the selections for January 1954. These are typical of the 160 splendid books offered to Club members during the school year.

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